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Early Life and Educational Background

Pamela Sadler was born on November 19, 1965, in Winnipeg, Manitoba, and grew up in Oakville, Ontario. After earning an honors B. Math in Computer Science (Co-op) at the University of Waterloo in 1991, she worked full time for 2 years in network planning at Bell-Northern Research in Ottawa. In her role as the liaison between various employees, their difficulties in mutual understanding and working together drew her attention, and she found her interests shifting from the technology for connecting people to the psychology of how people connect and fail to connect. Hence, she decided to return to the University of Waterloo and pursue a career in psychology, completing an honors B. Arts in Psychology in 1995 and a Ph.D. in Clinical Psychology in 2002, including a year-long clinical internship at the Calgary Health Region.

Her education in psychology provided several important intellectual influences, both direct and indirect. Kenneth Bowers, a co-supervisor of her honors research, inspired an enduring interest in the scientific study of hypnosis and, more generally, in personality and behavior change. Other

important influences were Erik Woody, supervisor of her doctoral research, and Richard Steffy, director of the clinical program. Through Drs. Woody and Steffy, crucial indirect influences were Robert Carson, who had been one of Woody's most influential mentors in graduate school, and Donald Kiesler, who had been a close friend of Steffy since graduate school. As Sadler's intellectual grandparents, so to speak, Drs. Carson and Kiesler crucially shaped her theoretical framework and main ideas about interpersonal psychology.

Professional Career

Pamela Sadler joined the faculty at Wilfrid Laurier University in 2002 and in the ensuing years was promoted to associate professor with tenure and later to full professor. She has authored about 40 written publications, appearing in outlets including the *Journal of Personality and Social Psychology*, *Journal of Counseling Psychology*, *Psychological Methods*, and *Psychological Bulletin*. Her work has been supported by multiple federal grants from the Social Sciences and Humanities Research Council (SSHRC). As an active member of the international academic Society for Interpersonal Theory and Research (SITAR), she has served as its president, worked on its executive council, and functioned as newsletter editor. These contributions were recognized with an award for outstanding service to the organization. In addition, since 2010, she has been on

the editorial board and has served as consulting editor of the *Journal of Personality Assessment*.

Research Interests

Pamela Sadler's chief interest as a researcher has been advancing the understanding of individual differences in social interaction, namely, patterns of interpersonal behavior that lead to positive versus negative outcomes. This work falls into two broad categories: (a) interpersonal traits, partner effects, and mutual influence in social interaction and (b) moment-to-moment entrainment in social interaction. She has also done related work in other areas, of which the most important are (c) statistical and methodological contributions to the study of dyadic and group processes and (d) the scientific study of hypnosis, which is, after all, a particular type of social interaction (Woody and Sadler 2016b).

Much of this work has a strong theoretical framework, which is interpersonal theory (Carson 1969; Kiesler 1996; Sadler and Woody 2017a). Very briefly, this theory posits that two particularly crucial aspects of behavior during interactions are people's dominance and affiliation. According to the principle of *complementarity*, effective interactions occur when partners adjust their respective styles so that they become more similar in levels of affiliation and more opposite in levels of dominance. Although these major hypotheses of interpersonal theory are intuitively appealing, they have proven to be challenging to investigate in research because they imply circular patterns of causation in which people simultaneously influence each other.

Interpersonal Traits, Partner Effects, and Mutual Influence in Social Interaction

One perennial issue in work on social interaction is how to integrate the contribution of people's stable, pre-existing traits with the ever-changing effects of their behavior on each other. When interaction partners simultaneously influence each other, the resulting bidirectionality of influence is awkward to manage with traditional data analytic techniques. An additional challenge is

that partners' views of an interaction may be biased in ways that are both integral to and a contaminant of the ongoing interpersonal process.

In one line of research, Pamela Sadler published the first study to use structural equation modeling to creatively address these issues. This approach modeled simultaneous, mutual influence and triangulated on social behavior with multiple sources of information – not only self-report, but also information from acquaintances and from trained observers. The results obtained with this model lent very strong support to the hypotheses of interpersonal complementarity. In particular, the results showed that people's behavior expresses their preferred trait style, while at the same time this style is continually revised in order to better fit the behavioral style of the person they are interacting with. Thus, the model and results integrate and explain both the consistency and variability in people's interpersonal behavior. This work also revealed the role of perceptual biases that contribute to the perpetuation of interpersonal patterns. Since the original publication of this work (Sadler and Woody 2003), Pamela Sadler and her colleagues have examined these effects in a variety of types of dyads, including people meeting for the first time (Locke and Sadler 2007; Sadler et al. 2011c; Sadler and Woody 2008) and romantic partners (Lizdek et al. 2016; Lockwood et al. 2004).

By showing the powerful effects that people have on each other's interpersonal behavior, this line of work provided an exciting foundation for her subsequent ground-breaking investigations of such interpersonal processes on a much finer time scale, as they unfold within an interaction.

Moment-to-Moment Entrainment in Social Interaction

A major shortcoming of interpersonal theory is that it is unclear at what time scale the processes of complementarity operate. Some previous research averaged people's behavior across an entire interaction and used these averages to index mutual adjustments of two people's overall levels of dominance and affiliation. Other research chopped up the interaction into individual acts and then looked at how each act predicts the subsequent

act by the other person. Neither of these macroscopic nor microscopic approaches are particularly satisfactory because they both overlook the ongoing continuous stream of behaviors and mutual influence that occurs between two people as their interaction unfolds over time.

Therefore, together with Erik Woody, Pamela Sadler pioneered a new method to continuously track people's interaction behavior using a novel computer joystick technique and software that captures real-time assessments of interpersonal behavior (Sadler et al. 2009; Lizdek et al. 2012). This technique is called the Continuous Assessment of Interpersonal Dynamics (CAID). To apply it, the observer watches a video of a social interaction on a computer monitor, focuses attention on one person, and uses the joystick position to indicate the moment-to-moment rating of that person's social behavior. Based on interpersonal theory, the various possible positions of the joystick comprise a plane capturing a very wide spectrum of interpersonal behavior, with degree of dominance versus submissiveness as the vertical axis and degree of friendliness to hostility as the horizontal axis. As the observer indicates moment-to-moment changes in interpersonal behavior, the computer records the joystick position continually. The resulting data provide a record of the continuous trajectory of the target person's behavior over time. Later, the observer watches the video again, focusing on the other person in the interaction. Because the two trajectories are exactly coordinated in time, they can be combined to represent and study the patterns of entrainment that interlink the behavior of the two parties.

In research using the CAID approach, Pamela Sadler and her colleagues proposed and obtained empirical support for a new theoretical perspective on rhythmic patterns of entrainment of dominance and affiliation between people as they interact (Sadler et al. 2009, 2011a). In this work, they proposed that there are three levels at which interpersonal complementarity may occur during social interactions: shifts, oscillations, and bursts. Using oscillations as an illustration, they employed cross-spectral analysis to show that cyclical patterns of entrainment develop in

previously unacquainted male-female interactions. They also demonstrated that there are large differences in the degree to which dyads show these patterns of cyclical synchrony. Subsequent work has verified that these differences matter: For example, dyads who show more entrainment of moment-to-moment variation in affiliation like each other more and complete joint tasks more quickly (Markey et al. 2010). Sadler and her colleagues have investigated how temporal dynamics may differ for different kinds of interactions, for example, same-sex versus opposite-sex interactions. They found that although some subtle gender differences exist, in general the same dynamic patterns apply regardless of gender (Sadler et al. 2011c). They have also extended the CAID approach to the characterization and study of interpersonal aspects of psychopathology (Lizdek et al. 2016; McDonald et al. 2014; Sadler et al. 2015).

This work has stimulated a great deal of interest internationally. These rhythmic patterns are now being investigated in other circumstances, including student-teacher interactions (Pennings et al. 2014), parent-child interactions (Klahr et al. 2013), and psychotherapy interactions (Altenstein et al. 2013; Sadler et al. 2015; Tracey et al. 2012; Thomas et al. 2014). It also has great potential for further clinical applications (Pincus et al. 2014), for example, to help understand interactional behavior of adults with Asperger's syndrome (Stevanovic et al. 2017) and of children with ADHD symptoms (Nilsen et al. 2015).

In addition to disseminating this research based on the CAID technique at academic conferences, Pamela Sadler has actively trained other researchers to apply it in their own labs. In recent years, she has been invited to deliver two-day training workshops at universities internationally.

Statistical and Methodological Contributions to Dyadic and Group Processes

An important component of Pamela Sadler's work has been the development and application of new statistical methods for understanding social interaction, particularly unscripted, spontaneous interactions. This work has extended the range of statistical models used for studying

“interchangeable” dyads (such as two males, two females, two coworkers, or two peers; Woody and Sadler 2005), and she has discussed how structural equation modeling (SEM) can be applied to understanding developmental changes in social interaction patterns of children and adolescents (Sadler and Woody 2008). She also published a major integrative exposition of SEM models that can be used to study social interaction (Sadler et al. 2011b), which has been very well received. She has also contributed important statistical and methodological expertise to published work in a variety of other areas of research (e.g., Berna et al. 2017; Kirsch et al. 2014; Wolf et al. 2015).

The Scientific Study of Hypnosis

As a secondary area of research interest, Pamela Sadler has an enduring interest in elucidating the underlying nature of the remarkable individual differences in hypnotic responsiveness (Sadler and Woody 2004, 2006, 2010; Woody and Sadler 2016a), including the further development of neo-dissociation theories stemming from Pierre Janet and Ernest Hilgard (Sadler and Woody 2017b; Woody and Sadler 1998, 2008). She has published a variety of other papers in hypnosis as well, for example, recently addressing the conceptualization of interpersonal processes in hypnosis using interpersonal theory (Woody and Sadler 2016b, 2017).

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Sadness

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Synonyms

Dejection; Despondency; Downheartedness; Glumness

Definition

Sadness is a negatively valenced emotion characterized by low arousal and considered one of the basic emotions.

Introduction

Why are humans capable of experiencing negative emotions like sadness? An evolutionary perspective on emotions holds that the physiological, psychological, and behavioral characteristics of emotions should be seen as evolved features that have been useful to humans at some point during evolutionary history. In particular, individuals equipped with a genetic makeup that enabled them to experience certain emotions in response to specific stimuli or situations were better able to cope with and respond to recurring challenges and opportunities which, in turn, increased their reproductive success.

The evolutionary benefits of some emotions may seem more straightforward compared to those of other emotions. In particular, whereas one can readily see the benefits of emotions such as anger (preparing the organism to fight) or fear (preparing the organism to flight), the evolutionary advantages of sadness may seem less clear-cut. However, evolutionary psychologists agree that sadness is rooted in evolution as well and consider it an adaptive response to situations in which a (social) loss has been incurred. In such situations, the general function of sadness is to momentarily withdraw from social interactions and to reassess one's goals and strategies to prevent further loss. Moreover, the expression of sadness elicits feelings of compassion in others, which stimulates them to help the suffering person (Nesse 1990).

In the following paragraphs, the direct causes, neurophysiological basis, experience, and consequences of sadness are discussed first. Next, strategies to regulate sadness and individual differences in this emotion are elaborated on before ending with a short conclusion.

Causes of Sadness

As mentioned in the introduction, sadness is usually centered on the loss of an important person, goal, or role. Typical examples are losing a relative, failing a test, or being fired. However, a wide range of events can actually elicit sadness. According to appraisal theorists, events cause sadness when one perceives or evaluates them in a certain way. Specifically, sadness tends to occur when an event is appraised as obstructing one's goals or concerns, as being caused by others or by circumstances, and when one feels unable to cope with the event or to modify it (Scherer 2003). This appraisal process can happen in a controlled or automatic way. Events that are similar to past sadness-eliciting experiences often result automatically in sadness, whereas new events typically require deliberate processing to establish their (emotional) meaning.

Neurophysiological Basis of Sadness

At the level of the central nervous system, sadness tends to be associated with activity in several brain regions including the putamen, the periaqueductal gray, and the entorhinal, dorsomedial prefrontal, and middle temporal cortices. It should be noted that activity in these regions is not specific to sadness but also characterizes other emotional and nonemotional processes (Lindquist et al. 2012).

At the level of the peripheral nervous system, sadness is associated with a heterogeneous pattern of sympathetic-parasympathetic coactivation. Specifically, sadness is characterized by either an activating or a deactivating physiological response. The activating (deactivating) response consists of increases (decreases) in heart rate, respiration rate, and skin conductance level. The activating response typically occurs when crying and is similar to the physiological pattern of activity that characterizes anxiety (Kreibig 2010).

Experience of Sadness

People are to some degree aware of the bodily changes that take place when feeling sad. Specifically, people often report a lump in the throat, muscle tension, and changes in heart rate, and some scholars even argue that the experience of sadness is a consequence of the awareness (or interpretation) of these bodily sensations. The experience of sadness is also typically characterized by having a long duration. Indeed, sadness often persists for hours or even days and has been found to be the emotion with the longest duration (Verduyn and Lavrijsen 2015).

Consequences of Sadness

Behavioral consequences. Sadness is expressed along a continuum ranging from subtle changes in small parts of the face including a lowering of the eyebrows, a lowering of the corners of the lips, and a raising of the chin (Langner et al. 2010) to highly manifest changes as crying. Sadness also affects the voice as it lowers the speaking volume and decreases the speaking rate among others (Scherer et al. 2003). Overall, sadness reduces approach behavior and results instead in behavioral passivity or avoidance.

Cognitive consequences. Sadness reduces stereotypical thinking and facilitates analytical and systematic processing of incoming information, as well as perspective taking and goal resetting (Forgas 2003). However, sadness also stimulates negative biases when making judgments (e.g., underestimating one's achievements) and when thinking about the past (e.g., negative events are retrieved more easily).

Health consequences. Short episodes of sadness have not been found to have direct health consequences. However, when already suffering from disease, sadness may increase attention to feelings of discomfort. For example, it has been shown that, when sad, people suffering from a cold or a flu reported more aches and pains (Forgas 2003). Sustained sadness is more

troublesome and is symptomatic of mood disorders such as depression.

Interpersonal consequences. As already mentioned in the introduction, sadness strengthens social bonds by communicating that one is suffering, which increases empathy and prosocial behavior in others. However, when sadness leads to extreme avoidance behavior, it may result in self-exclusion, which prevents others to provide support which, in turn, prolongs the sadness experience (Izard and Ackerman 2000).

Regulating Sadness

Traditionally, people were considered slaves of their emotions without any possibility to intervene in their emotional life. However, it is now clear that one can influence the nature, intensity, and duration of one's emotions by activating so-called regulation strategies. This also holds for sadness. Two emotion regulation strategies found to reduce sadness are distraction and reappraisal. Distraction is defined as diverting one's attention away from the sad event, whereas reappraisal refers to reinterpreting the event or distancing oneself from it by adopting a detached perspective. Both distraction and reappraisal are implemented in therapeutic treatments such as cognitive behavioral therapy (CBT). Specifically, in CBT, patients are encouraged to distract themselves by initiating activities they like or to reappraise the negative event by discussing it with the therapist or with a friend. Certain regulation strategies, however, increase rather than decrease feelings of sadness. Rumination, defined as repetitively focusing on one's symptoms of distress and their consequences, intensifies and prolongs sadness and is one of the core mechanisms underlying the development and maintenance of depression (Sheppes and Meiran 2007).

Individual Differences

People differ in the frequency, intensity, and duration of their sadness experiences. Several factors underlie these differences. First, individual

differences in sadness are related to basic demographic features. For example, women express higher levels of sadness compared to men. Second, sadness is related to personality traits (Verduyn and Brans 2012). Specifically, neuroticism, agreeableness, and openness are linked to high levels of sadness, whereas the opposite holds for the other two Big Five personality traits (extraversion and conscientiousness). Other personality characteristics that are negatively related to sadness include self-esteem and emotional intelligence. Third, the experience and expression of sadness is affected by sociocultural factors such as the degree to which sadness is socially accepted (Barr-Zisowitz 2000). Fourth, as the use of regulation strategies influence sadness, individual differences in the tendency to make use of such strategies result in different levels of sadness across persons (Mikolajczak et al. 2008).

Conclusion

Sadness is an emotion that is frequently experienced in daily life. In many Western societies, the pursuit of happiness takes center stage, and sadness is often considered maladaptive. However, sadness is actually often highly functional. It facilitates, for example, analytical thinking and strengthens social bonds. When sadness persists for a long time, however, the initially functional response may become dysfunctional.

Cross-References

- ▶ Bereavement
- ▶ Depression
- ▶ Despair
- ▶ Grief
- ▶ Sorrow
- ▶ Tender Emotion

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Safety Behavior

- ▶ Workplace Safety

Safety Needs

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Synonyms

[Deficiency needs](#); [Maslow's hierarchy of needs](#)

Introduction

Safety needs refer to humans' natural inclination for a sense of security and safety. Examples of safety needs across the lifespan include access to health care, adequate housing, and job security. Following Maslow's Hierarchy of Needs, safety needs are considered lower-order needs which must be met before pursuing higher-order needs such as love and self-actualization (Maslow 1948). Attachment theory highlights how some safety needs can be met through the formation of secure attachment relationships between children and adult caregivers. Secure attachment relationships provide a secure base for children to explore their world from gradually developing independence (Bowlby 1982). In turn, secure attachment relationships in childhood serve as a model for healthy relationship development throughout the lifespan. Although a limited amount of research has been completed, attachment theory appears to complement Maslow's Hierarchy for the examination of safety needs.

Definition and Theories

According to Maslow (1943), safety needs are defined as the human need to avoid the threatening, dangerous, or unfamiliar. In his commonly referenced Hierarchy of Needs, safety needs follow physiological needs, both of which are considered lower-order or "deficiency needs," which

must be met before advancing to higher-order or "growth needs." Higher-order needs (i.e., love/belonging, esteem, and self-actualization) are less urgent to be fulfilled than lower needs. As Maslow (1948, p. 434) describes, "respect is a dispensable luxury when compared with food or safety." Safety needs can be seen across the lifespan, and a person has the potential to be fully dominated in her pursuit to meet said needs. When safety needs are met, feelings of security, routine, and predictability of life are more likely. Maslow (1943, p. 376) goes on to say that safety needs recruit all capacities of an organism and thus we can "describe the whole organism as a safety-seeking mechanism."

In addition to Maslow's definition of safety needs, attachment theory also highlights the importance of safety needs to the well-being of humans (e.g., Bowlby 1982; Hunter et al. 2016; Malinga-Musamba 2015). Attachment figures serve as a secure base providing safety and security from which children can then explore their environment from and seek to maintain proximity to when experiencing distress (Bowlby 1982; Hunter et al. 2016). Attachment relationships formed in childhood impact the development of healthy relationships and well-being in general throughout life, through the development of attachment styles (e.g., secure versus insecure; Bowlby 1982; Hunter et al. 2016).

Safety Needs Across the Lifespan

Infancy and Early Childhood

Safety needs are paramount throughout life, but are particularly salient during infancy and childhood, when the young are dependent on parents and adults for their well-being. In fact, some researchers have proposed that safety needs are the most fundamental needs in Maslow's Hierarchy and should actually come first before physiological needs (Zheng et al. 2016). According to Maslow (1943), illness will completely change an infant. The child becomes so threatened by physical illness that she begins to feel unsafe which leads to nightmares, needs of reassurance, and a need for protection. Additionally, a child craves a

predictable and orderly world. Pain leads to the world looking unreliable, unsafe, and unpredictable (Maslow 1948). This desire or need for safety parallels attachment theory, where infants and their adult caregiver are viewed as developing a close and secure bond (e.g., Bowlby 1982; Hunter et al. 2016). In turn, a secure bond results in a sense of safety, security, and belonging for the child. This security leads to maturity and independent functioning later in the child's life (Hunter et al. 2016). Developing attachment happens through a series of four functions. The first function is a secure base, which is the infant's trust to explore the world. The second is safe haven, or having an attachment figure (e.g., parent or caregiver) to return to when feeling insecure. The third is seeking and maintaining proximity, which is the child's notion to cry or call out when fearful. The final function is separation protest, in which the child feels is sometimes required to ensure there is a figure to continue to provide security. Often times the first two functions need to be established before continuing on to the final two (Hunter et al. 2016). In juxtaposition to healthy attachment, poor or insecure attachment relationships increase the difficulty of meeting children's safety needs. For example, Malinga-Musamba (2015) attributed orphan children's insecurity to the poorly formed attachment relationships with parents, who, because of their terminal illness, were unable to meet their child's safety needs. Similarly, looking at this from Maslow's Hierarchy of Needs Theory, orphan children in this particular study were likely to experience several transitions (e.g., housing and caregiver) and thus not have their safety needs met consistently or at least not have assurance that their safety needs would be met (e.g., Heymann et al. 2007).

Adolescence

A deficiency in safety needs can have an impact on a child's academic abilities and cognitive competencies, as the lack of meeting safety needs inhibits their ability to move up the hierarchy to accomplish higher level needs (Noltemeyer et al. 2012). Relatedly, insecure attachment relationships during adolescence can lead to feelings of

insecurity and thus inhibit development of relationships and related well-being (Bowlby 1982; Hunter et al. 2016). Safety needs at this age can include having a stable home life, access to dental, and/or access to health care (Maslow 1943; Noltemeyer et al. 2012). Children who witness domestic violence, divorce, or physical abuse will have intense safety need deficiencies. Additionally, and to a lesser extreme, children who have limited access to dental and/or health care have been found to have lower academic performance levels (Noltemeyer et al. 2012).

Adulthood

"The healthy, normal, fortunate adult in our culture is largely satisfied in his safety needs" (Maslow 1943, p. 378). In the average adulthood, safety needs are still present, but typically less motivating than higher needs. Safety needs in adulthood can include preference for a job with stability and benefits, the procurement of insurance, and the desire of a savings account and similar safety nets. Adults who have not had safety needs met in childhood, or continue through life without having these needs met, will have the potential of exhibiting pathological conditions. Maslow reports adults who regress to childlike behaviors and views of the world (Maslow 1943). Fear phobias, post-traumatic stress disorder, and anger-based depression may also present itself (Zheng et al. 2016). Similarly, poor attachment is a common understood risk factor when assessing for mental illness. Depression, personality disorders, eating disorders, and substance abuse have been identified as common mental health issues associated with insecure attachments (Hunter et al. 2016).

Current Research

Although Maslow's Hierarchy of Needs Theory is well known and widely accepted, limited follow-up research has been conducted to analyze the theory and how it relates to society and culture. For students, research has been conducted to see how lack of safety needs relate to academic achievement. Higher safety need fulfillment has been

found to be associated with higher performance on reading assessments (Noltemeyer et al. 2012). Current research within the realm of attachment theory is analyzing the different functions of attachments for children (Hunter et al. 2016). Additionally, in a research study completed by Malinga-Musamba (2015), the relationships between orphans in Botswana and their caregivers were analyzed using both Maslow's Hierarchy of Needs and attachment theory. Caregivers identified that communication, the child's behavior, and the caregiver's responsibilities were all vital to the relationship. Using attachment theory, the researchers argued that the caregivers should be able to look beyond the child's behaviors and understand the emotionality of the exhibited behavior. Because the child had lost his or her parents early in life, insecure attachments (unmet safety needs) may be at the root cause of a child's misbehavior (Malinga-Musamba 2015). Following Maslow's theory, foster caregivers were able to meet children's safety needs through providing stability, security, and sense of family and belonging.

For adults, research on safety needs tends to focus around mental health and treatment. According to research targeting addiction services, treatment should follow a lower-order needs approach (Best et al. 2008). Until a patient suffering from addiction can have her need of safety met, she cannot progress to begin contemplating higher-order needs, like self-esteem. Maslow's concept of safety needs has been connected to modern, cognitive science through explorations of the amygdala and neuromodulators (e.g., Zheng et al. 2016). Fear and anger are a double-edged sword, in which fear is a flight away from danger and anger is the fight to keep danger away. Both of these emotions are housed in the amygdala and are released by neuromodulators, making safety an instinctual need for all humans (Zheng et al. 2016). In adulthood, attachment serves as a model of dimensions, including secure, preoccupied, dismissing, and fearful/disorganized (Hunter et al. 2016). These dimensions reflect the extent that some safety needs are met, are viewed on a spectrum, and range from their severity of insecurity.

Conclusion

For both children and adults, a question has been raised throughout the research, do physiological needs truly come before safety needs? Maslow himself even questioned which need was more important to be met, stating "Practically everything looks less important than safety. . ." (Maslow 1943, p. 376). More research is needed to clarify where safety needs fit exactly within Maslow's model and what implications safety needs have on humans' everyday existence. There are limited studies that compare Maslow's Hierarchy of Needs with other theories, such as attachment theory, which appear to complement the application of Maslow's theory. Future studies comparing the examination of safety needs through multiple theories are recommended to further explicate the role of safety needs.

Cross-References

- ▶ [Mendoza-Denton, Rodolfo](#)
- ▶ [Rathus Assertiveness Inventory](#)

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Safety Outcomes

- ▶ [Workplace Safety](#)

Safety Performance

- ▶ [Workplace Safety](#)

Safety-Related Behaviors

- ▶ [Workplace Safety](#)

Saklofske, Don

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Donald Saklofske, Ph.D., received his Ph.D. from the University of Calgary under the supervision of the Dr. P. E. Vernon. He began his academic career at the University of Otago, Dunedin, New Zealand, and then returned to Canada. After 2 years at the University of Calgary, he then moved to the University of Saskatchewan for the next 25 years and then the University of Calgary for several years where he was a professor in the

Applied Psychology area and Associate Dean of Research in the Faculty of Education. He is currently a professor in the Department of Psychology at the University of Western Ontario, adjunct professor at the University of Calgary and the University of Saskatchewan, visiting professor in the Faculty of Psychology at Beijing Normal University (China), and a research member in the Laboratory for Research and Intervention in Positive Psychology and Prevention at the University of Florence (Italy). He has served on the boards of various provincial, national, and international professional associations throughout his career and contributed to psychological research and practice through his consultations to organizations such as Pearson Assessment. And a footnote, Don earned a third dan black belt in traditional karate.

Research and Practice

Dr. Saklofske's professional history is a blend of research, teaching, and practice. He was a registered psychologist in Alberta and Saskatchewan and spent many hours in clinical practice as well as in the training of clinical and school psychologists. Dr. Saklofske's research program is focused on individual differences in intelligence and personality with an emphasis on emotional intelligence, resiliency, psychological health, and psychological assessment. He has presented hundreds of conference presentations and lectures around the world and is frequently invited to deliver workshops and short programs on his current research. He has published more than 35 books and 300 journal articles and book chapters. He is editor of *Personality and Individual Differences* and the *Journal of Psychoeducational Assessment*. He previously served as editor of the *Canadian Journal of School Psychology*. Dr. Saklofske is an elected fellow of the Association for Psychological Science, Canadian Psychological Association, and Society for Personality and Social Psychology and has received recognition for his research, professional practice, and service from various professional associations.

Research Focus

Dr. Saklofske has had the very good fortune of working and collaborating with many outstanding researchers around the world during his career. As well, many of his graduate students have had a considerable influence on him (and hopefully it has been reciprocal). Together with his colleagues and students, a number of research projects have been initiated in both Canada and other countries to examine intelligence and personality, with a strong focus on psychological measurement and assessment.

His research is currently directed at factors that contribute to the development and significance of resiliency (Prince-Embury et al. 2017) in everyday functioning and well-being and he continues to collaborate with Sandra Prince-Embury on her three-factor model of resiliency (i.e., mastery, relatedness, and emotional reactivity). Another area of considerable interest is emotional intelligence which began more than 20 years ago due to the persistence of an undergraduate student who insisted it was worth studying (thank you Paul Minski). This work has most recently resulted in a book focusing on emotional intelligence and its significance in education (Keefer et al. 2018). The continuing focus on emotional intelligence, from its definition and “correlates to measurement” results from an interest in examining individual differences that are not covered by existing measures of intelligence and personality (e.g., collaborative studies with Elizabeth Austin, Dino Petrides, Annamaria Di Fabio, Greg Yan, and Jim Parker). Additionally, the significance of emotional intelligence follows from the finding that it could be linked to a range of theoretically and practically important outcomes with meaningful applications. For example, emotional intelligence plays a role in adaptation to stress and positive health indicators (Austin et al. 2005; Di Fabio and Saklofske 2018; Keefer et al. 2018; Vesely and Saklofske 2018). Emotional intelligence influences the relationship between personality and academic success (Keefer et al. 2018; Saklofske et al. 2012). Dr. Saklofske and colleagues also have examined the factor structure of tests used to assess emotional intelligence

beginning with an early study by Saklofske et al. (2003). More recently, Dr. Saklofske and colleagues have examined how these tests can be adapted and improved to yield more effective measures of emotional intelligence (e.g., Austin et al. 2004) with particular applications to other countries including for example, Italy, China, Japan, and Korea.

More recently, considerable attention in Dr. Saklofske’s lab has also focused on an examination of perfectionism. Martin Smith, now at York St. John University, has taken a lead role in what has resulted in more than 25 publications examining the relationship of perfectionism and personality and its impact on various psychological health concerns ranging from anxiety and depression to suicide and eating disorders (e.g., Smith et al. 2018) as well as developing new measures of perfectionism (Smith et al. 2016). Other current areas of research interest in Dr. Saklofske’s lab are related to the personality composition labelled the “dark triad” and now “dark tetrad” (e.g., Plouffe et al. 2017) as well as a newer series of studies on humor and the “light triad.”

While Dr. Saklofske’s research interests are quite diverse, it is important to note a series of books focusing on intelligence assessment that resulted from his collaborations with Larry Weiss, Aurelio Prifitera, and a number of outstanding colleagues and researchers. The Wechsler scales of intelligence have been the foundation for these books beginning with the first book on the WISC-III to the forthcoming second edition of our WISC-V book. Other books have addressed clinical assessment issues and applications with the WAIS-III and WAIS-IV. One of the most significant contributions from these books began with an earlier 2003 book by Georgas et al. (2003) that initially focused on the assessment of children’s intelligence across a number of countries but which later evolved into an examination of “demographic” factors that might underlie differences between groups, using the US standardization data from the various Wechsler tests. Under the leadership of Larry Weiss, it was determined that observed differences between groups could often be partly or even

largely accounted for by such key factors as parent expectations, parent education, and related SES factors. The most recent chapter following this analysis will appear in the forthcoming second edition of the WISC-V book (Weiss et al. 2019).

Final Word

Finally, lest one think that all psychologists focus on and do is research related, Dr. Saklofske would like to note that much of his work was driven by several influences which include the many significant people in his life: his parents (Frances and Harold) and children (Jon and Alison and his wife's son, Micah), his graduate students and colleagues, and especially his wife, Vicki Schwan (Dean of Education, University of Western Ontario) for her strong commitment to children and social justice. Hopefully his research and professional work contributes in some small way to the pleas of B. F. Skinner, Stephen Hawking, Martin Luther King, John Lennon, and many others: what can we contribute to making this world a better place for our children and all of humanity?

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Salovey, Peter

Peter Salovey

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Peter Salovey is the 23rd president of Yale University and the Chris Argyris Professor of Psychology. He holds secondary faculty appointments in the School of Management, the School of Public Health, the Institution for Social and Policy Studies, and the Sociology Department. He became president of Yale in July 2013.

Education

After receiving an A.B. (psychology) and A.M. (sociology) from Stanford University in 1980 with departmental honors and university distinction, Salovey earned three degrees at Yale

in psychology: M.S. (1983), M.Phil. (1984), and Ph.D. (1986), combining clinical and social psychology. He was elected to Phi Beta Kappa in 1979.

Professional Career

Salovey was appointed assistant professor of psychology at Yale in 1986. He was promoted to associate professor in 1990 and professor of psychology in 1995. Other academic positions at Yale include director, Health, Emotion, and Behavior (HEB) Laboratory; fellow, Bush Center for Child Development and Social Policy; member, Cancer Prevention Research Unit, Yale University School of Medicine; member, Comprehensive Cancer Center, Yale University School of Medicine; deputy director, Center for Interdisciplinary Research on AIDS.

Prior to becoming president, Salovey served as the provost of Yale University from 2008 to 2013. Other leadership roles at Yale have included serving as chair of the Department of Psychology (2000–2003); dean of the Graduate School of Arts and Sciences (2003–2004); and dean of Yale College (2004–2008).

Salovey has led the development of new programs and facilities across the schools of Yale, including restructuring the leadership of the Faculty of Arts and Sciences and opening two new residential colleges, expanding Yale College enrollment by 15%. He is advancing innovative teaching on campus; amplifying Yale's partnerships in Africa, Asia, and other parts of the world; and enhancing interdisciplinary collaboration and entrepreneurial opportunity for faculty and students. Salovey is committed to increasing access to a Yale education for students worldwide regardless of their financial circumstances.

Research Interests

Salovey has studied the connections among emotion, health communication, and health

behavior, with a special focus on emotional intelligence. With John D. Mayer, he developed a broad framework called "emotional intelligence," the theory that just as people have a wide range of intellectual abilities, they also have a wide range of measurable emotional skills that profoundly affect their thinking and action. He and his students also conducted research on the communication of information about health and illness. Salovey has authored or edited over a dozen books translated into 11 languages and published hundreds of journal articles and essays.

The program of research conducted in Salovey's laboratory concerns two general issues in social/personality psychology: (a) the psychological significance and function of human moods and emotions and (b) the application of principles derived from research in social/personality psychology to the promotion of health protective behaviors.

His research program on mood and emotion has been focused on the psychological consequences of feeling states. The goal has been to specify the processes by which affect influences thought and action. Salovey views emotions as organizing processes that enable individuals to think and behave adaptively. This perspective can be contrasted with a more traditional one that sees affect as a disorganized interruption of mental activity that must be minimized or controlled. His laboratory has investigated the consequences of the arousal of moods and emotions in several different domains including (a) cognitive activities such as autobiographical memory, reasoning, and problem-solving, (b) perception and recall of physical symptoms and the development of health beliefs, (c) interpersonal behavior and close relationships, and (d) complex social emotions such as jealousy and envy. A theoretical framework called "emotional intelligence" unifies these different research thrusts. This perspective emphasizes the strategies that people learn in order to appraise and express their emotions accurately, understand the feelings of other people, regulate their emotions and the feelings of other people, and use emotions to motivate, plan, and achieve in life.

Most of Salovey's research attention in the health promotion area has concerned the effectiveness of health messages designed to promote cancer and HIV/AIDS prevention and early detection behaviors. The adoption of these healthy behaviors often depends on the persuasiveness of a public service announcement, brochure, print advertisement, educational program, or communication from a health professional. In community-based, field experiments, often with vulnerable populations, Salovey and his collaborators have compared the effectiveness of persuasive appeals and social psychological interventions that vary in terms of how information is framed (as benefits versus costs) and whether it is tailored to the health information processing styles and other characteristics of recipients. The goal of his research has been to investigate the role of framing and other communication and social influence variables in developing maximally persuasive messages promoting cancer and HIV/AIDS prevention and early detection primarily in inner-city minority and other under-served populations. He has also been concerned with the manner by which moods and emotions influence the processing of health information, shape health beliefs, and motivate subsequent health behaviors, and the role of emotional arousal in the persuasiveness of health communications.

Awards and Honors

Salovey is the recipient of honors for teaching, mentorship, and scholarship, including the William Clyde DeVane Medal for Distinguished Scholarship and Teaching in Yale College and the Lex Hixon '63 Prize for Teaching Excellence in the Social Sciences. He has received honorary degrees from the University of Pretoria (2009), Shanghai Jiao Tong University (2014), National Tsing Hua University (2014), Harvard University (2015), McGill University (2018) and the university of Haifa (2018). In 2013, he was elected to the American Academy of Arts and Sciences and to the National Academy of Medicine.

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Sándor Ferenczi

- ▶ Rank, Otto

Sanguinity

- ▶ Optimism

Sara Algoe

- ▶ Algoe, Sara B.

Satisfaction

- ▶ Pleasure

Satisfaction with Life

- ▶ Happiness
- ▶ Religiosity and Well-Being

Satisfaction with Life Scale

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Definition

The Satisfaction with Life Scale (SWLS) is a five-item measure that is scored on a seven-point Likert-type scale with response options ranging from 1 = *extremely dissatisfied* to 7 = *extremely satisfied*. The SWLS is a copyrighted instrument and has been translated into over 30 different languages (<https://internal.psychology.illinois.edu/~diener/SWLS.html>). Use of the instrument is

free of charge and does not require permission for use under the agreement that users will give proper credit to the authors of the scale (Diener et al. 1985). The SWLS may be administered in paper-and-pencil format, or easily adapted for use through electronic survey software applications.

Satisfaction with life as a whole refers to subjective well-being and constitutes a cognitive, overall judgment. This judgment results from comparing one's own circumstances with what is considered an appropriate standard (Diener et al. 1985). Satisfaction with life can be described in different terms, which all have more or less the same meaning. Examples of synonyms are "happiness" or "subjective well-being."

Introduction

The development of the Satisfaction with Life Scale (SWLS) was based on the idea that the concept of life satisfaction is a judgment that a person makes about his or her life in general. This judgment about how a person thinks about life in general is distinct from how that person might feel about specific aspects or circumstances in life at a given point in time, such as physical health or finances. Psychologists sometimes refer to this judgment, or thinking aspect of well-being as a cognitive appraisal. By contrast, the appraisal process that is based on how one feels is referred to as an affective or emotion-driven approach. Although the two approaches measure different components of satisfaction, the global satisfaction and specific domain satisfaction are related.

The developers of the SWLS explain that while some people recognize and acknowledge the undesirable factors in their lives, they may deny or ignore any negative emotional reaction that they may have toward those circumstances in life (Diener et al. 1985). Furthermore, emotional reactions are often a short-term response to a current situation that is specific, whereas judgments about life satisfaction can reflect a long-term perspective. Finally, a person's thoughtful evaluation of his or her circumstances in life may reflect the goals and values that he or she has considered over time. In contrast, an

emotional or affective reaction to specific situations in life may reflect motives that have not been considered in much detail, and may therefore be influenced more by bodily states (stress levels, excitement, joy, depression, etc.) than ratings of life satisfaction. In any event, although life satisfaction and emotional well-being are distinct concepts, they are related because they both depend on an evaluative appraisal that is self-reported by each individual.

Attention, Values, and Standards in Making Life Satisfaction Judgments

The judgment of life satisfaction is without question a function of attention, values, and standards. In general, life satisfaction surveys are thought to complement existing indicators of social circumstances, finances, political and economic outlook, and other things that influence one's quality of life. This allows respondents on life satisfaction surveys to freely weigh different aspects of their life in making their judgment of life satisfaction. Individual differences in values and preferences can be taken into account on the scales as well as the outcomes of past choices. As expected, there are differences between groups of individuals who appear to have fortunate versus unfortunate life circumstances.

Attention

Immediate situational factors, very long-term factors, and medium-range circumstances can all influence levels of life satisfaction. When life satisfaction scales have been assessed repeatedly, it appears that about 60–80% of the variability in the life satisfaction scores is associated with long-term factors, such as cultural values or personality. The remaining 20–40% of the variance is due to situation-specific factors and measurement error. On a single administration of the life satisfaction measures, about one third of the variance in judgments of life satisfaction is valid (Diener et al. 2013). For example, the information people attend to at the time of the survey response can strongly affect life satisfaction judgments and can have a substantial influence on reported life

satisfaction. Respondents might also be influenced by unconscious factors or simply recall previous life satisfaction judgments.

Values and Standards

Judgments of life satisfaction often depend on the social comparison of one's own personal standards, such as one's aspirations and goals, to the standards of friends and relatives. Relative social comparison from a distance, facilitated by the Internet or television, might also influence people's judgment of their own satisfaction with their standard of living. This issue is discussed in greater detail below in the comments on the sensitivity and stability of measuring the satisfaction with life.

Descriptive Characteristics and Scoring of the SWLS

The original Satisfaction with Life Scale consisted of 48 questions or items, but after further development and refinement of the measure the final version that is used in practice consists of only five items. The SWLS items are scored on a seven-point Likert-type scale with response options ranging from 1 = *extremely dissatisfied* to 7 = *extremely satisfied*. Scores on the individual SWLS items are added together to arrive at a total SWLS score ranging from 5 to 35. This total SWLS score can be interpreted relative to a neutral score of 20, the point at which a person is about equally satisfied and dissatisfied. A score of 5–9 indicates extreme dissatisfaction with life, and a score above 30 represents high satisfaction. The average scores across samples tend to range from 23 to 28, representing slightly satisfied to high levels of life satisfaction.

Stability and Sensitivity of the SWLS

Stability of measurement versus sensitivity to change is a critical issue for any assessment instrument. The SWLS is intended to demonstrate stability over time, yet remain sensitive to expected

changes that occur naturally across the life span. There is evidence of the stability of scores on the SWLS across time and situations in life (Diener et al. 1985; Pavot and Diener 1993), suggesting that the psychological process involved in reporting scores is consistent. Furthermore, there is evidence that life satisfaction is also stable over time when it is measured by different scales administered by different organizations (Diener et al. 2013). Vassar (2008) presents a detailed discussion on the reliability generalization of the SWLS, and multiple sources provide further detail on the influence of individual differences and life events on life satisfaction over time (Diener et al. 2013; Magnus et al. 1993; Pavot and Diener 1993). When viewed over longer periods, life events were found to be predictive of changes in life satisfaction as measured by the SWLS (Magnus et al. 1993). In other words, expected changes in satisfaction were related to good and bad events in the lives of respondents during the previous year.

Vassar (2008) examined the reliability of scores for the SWLS across several samples and reported that scale reliability tended to increase as the percentage of females in the sample increased. This finding might suggest that the SWLS is well designed for populations in which there is a larger proportion of females. Likewise, Vassar (2008) reported that score reliability estimates were often lower in youth samples. This observed negative relationship might suggest that the SWLS should be used with adult samples. Gilman and Huebner (2003) provide a review of alternative measures of life satisfaction that may be more appropriate for use with younger samples.

Cross-Cultural Use of the SWLS

Researchers have evaluated cross-national differences in average scores of life satisfaction in European, American, and East Asian countries using multiple measures including the SWLS (Caprara et al. 2012; Diener et al. 1995). Some researchers have suggested that scores for life satisfaction might differ because of cultural factors such as individualism that might contribute to observed

cross-national differences (Vittersø et al. 2002; Whisman and Judd 2016). Overall, the findings from those studies support the use of the SWLS for comparisons between some countries, the United States and England, for example. However, caution was advised in the interpretation of SWLS scores from Asian countries. People who are from countries that are low in individualism might interpret some of the questions differently than respondents from countries that are high in individualism. Specifically, people in collectivist cultures are more likely to use social relationships rather than emotional information in judging their life satisfaction compared to people in individualistic cultures. In some Asian countries, for example, the differences in the average life satisfaction scores might reflect something other than life satisfaction (Whisman and Judd 2016).

Conclusion

Life satisfaction scales capture personal judgments from information that readily comes to mind when people think of their lives. This tends to be aspects of people's lives that they think are important and relevant to evaluations of their life, and are areas for which they often have a ready appraisal, such as marriage, health, and work. However, it would be a mistake to think of life satisfaction as a value that is fixed in people's minds. Life satisfaction, according to the developers of the Satisfaction with Life Scale, is a judgment that a person constructs in order to evaluate and consider changes in their life, or in order to respond to a survey. It would also be an error to think of life satisfaction as an impulsive judgment that depends only on chance factors at the moment; there is too much evidence showing that long-term factors affect life satisfaction judgments for this to be an accurate depiction.

Summary

Life satisfaction scores are influenced by personal factors in people's lives as well as by community and societal circumstances. Periodic assessments

of life satisfaction can provide insight into what is working well for individuals, or areas for improvement in a community or society as experienced by the citizens themselves. Because different variables predict life satisfaction in different cultures and for different individuals, one cannot gain a complete picture of quality of life by measuring objective factors alone; subjective, self-report measures such as the Satisfaction with Life Scale are also important tools for gaining insight into the well-being of individuals, communities, and societies.

Cross-References

- ▶ [Assessment of Spirituality and Religious Sentiments \(ASPIRES\) Scale](#)
- ▶ [Attributional Styles Questionnaire](#)
- ▶ [Internal-External Locus of Control Scale](#)
- ▶ [Oxford-Liverpool Inventory of Feelings Experiences \(O-LIFE\)](#)
- ▶ [Positive and Negative Affect Schedule \(PANAS\)](#)

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SB5

- ▶ [Stanford-Binet Intelligence Scale](#)

Scale of Psychoneurotic Tendencies (PT)

- ▶ [Woodworth Personal Data Sheet](#)

Scar Model

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Synonyms

[Causes-consequences](#); [Depression](#); [Personality](#); [Psychopathology](#); [Self-esteem](#)

Definition

The scar model suggests a causal effect of psychopathology on personality. It assumes that the

experience of having suffered from a severe mental disorder such as a major depression leaves “scars” in individuals that have a lasting effect on personality such as low self-esteem. In this entry, the scar model is discussed with respect to the association between depression and self-esteem.

Personality and Psychopathology

A variety of theoretical models have been proposed to understand the associations between personality and psychopathology (Widiger and Smith 2008). Two competing albeit closely related models are particularly concerned with the directionality of causal effects between the constructs: the vulnerability model and the scar model. The vulnerability (or predisposition) model assumes causal effects of personality on psychopathology. It holds that personality plays a causal role in the onset and development of psychopathology. It is believed that personality traits can provide vulnerability or risk factors to psychopathology. The scar (or consequences) model takes the opposite approach and assumes causal effects of psychopathology on personality. It suggests that personality changes are consequences of experiences of psychopathology. However, it is important to note that both processes (i.e., personality features as risk factors for the development of depression versus personality changes as consequences of depression) might operate simultaneously based on habits in information processing. Cognitive information processing includes how people attend to, encode, store, and retrieve information. Depressive episodes may “shade” neutral information about the self, and, in turn, low self-esteem may lead to “highlighting” negative information in situations. Rumination about negative situations and repelling statements about the self intensifies these effects, leading to a vicious circle and simultaneous operation of both processes.

Both models are typically discussed with respect to various forms of psychopathology (e.g., depression, anxiety) and different personality features including broad personality traits (e.g., neuroticism/negative affectivity, extraversion/positive

affectivity, conscientiousness) and more specific traits (e.g., rumination, self-criticism) (Klein et al. 2011; Widiger and Smith 2008). Because the scar model is often tested in conjunction with the vulnerability model, this entry also partly refers to empirical evidence with respect to the vulnerability model.

The Scar Model of Self-Esteem and Depression

Two major types of self-esteem can be distinguished: global self-esteem and domain-specific self-esteem. Global self-esteem is an important affective and evaluative feature of personality that represents a global, subjective evaluation of the self (i.e., thoughts, feelings, and evaluations about the self in general) (e.g., “In general, I’m a person of worth”), whereas domain-specific self-esteem refers to self-evaluations in specific self-relevant domains such as physical appearance, intellectual abilities, and social competence (e.g., Steiger et al. 2014; Zeigler-Hill 2011). Both types of self-esteem are responsive to a number of important daily life experiences such as depressive episodes. For example, interpersonal conflicts, criticism, and uncooperative or rejecting interactions between individuals and their social environments may lead to negative self-evaluations. Therefore, it is not surprising that depression is associated with low global and domain-specific self-esteem. Psychopathology in terms of depression may have a causal effect on global and domain-specific self-views by altering how individuals process self-relevant information (e.g., attention, encoding, storage, and retrieval; Orth et al. 2008). For example, while a critical review may be seen as a basis for individual improvement in a specific field, a person having suffered from a major depressive episode may interpret the same review as an offense against him or her as a person in general. Indeed, the scar model suggests that low self-esteem is a causal consequence of depression rather than one of its causes. It assumes that the experience of having suffered from a major depression leaves “scars” in individuals that have a fundamental and

lasting effect on how individuals evaluate themselves (see Orth and Robins 2013; Zeigler-Hill 2011 for reviews).

Empirical Evidence for the Validity of the Scar Model

The validity of the scar (or consequences) model, often in conjunction with the vulnerability (or predisposition) model, has been tested in a number of recent longitudinal studies, using large samples, different age groups, and advanced statistical approaches to increase the validity of the conclusions (e.g., Orth et al. 2008, 2009; Rieger et al. 2016). The results of these studies provided somewhat stronger support for the vulnerability model and somewhat weaker and, in some studies, almost no support for the scar model. In order to develop a comprehensive picture about the directionality and the size of the association between self-esteem and depression, a meta-analytic review evaluated the scar and vulnerability models of self-esteem and depression using available longitudinal data (Sowislo and Orth 2013). More specifically, 77 studies (including approximately 35,000 participants) were included to test for causal effects of low self-esteem on depression and of these studies; 44 studies (including approximately 14,000 participants) tested causal effects of depression on self-esteem using longitudinal, cross-lagged panel designs. The results of the meta-analysis provided significant support for both models. However, the estimated average effect of self-esteem on depression (vulnerability model: $\beta = -0.16$) was significantly stronger than the average effect of depression on self-esteem (scar model: $\beta = -0.08$).

Further Areas for Validity Tests of the Scar Model

Despite considerable support for the validity of the vulnerability and scar models, there are several areas for further tests of the two models. For example, the directionality of causal effects

between self-esteem and depression in old and very old age is largely understudied, because previous work with a few notable exceptions focused on samples of younger and middle-aged adults. A recent study explored the longitudinal associations between self-esteem and depressive mood in a sample of older adults aged 64 to 97 years over a 6-year period (Gana et al. 2015). The results failed to support both the vulnerability model and the scar model, suggesting no causal effects of self-esteem on depression and vice versa.

Another example refers to the long-term validity of the scar and vulnerability models across different developmental periods as most previous longitudinal studies included only time intervals of several days to several years. A recent longitudinal study tested the validity of the scar and vulnerability models from adolescence to middle adulthood (long-term effects) and across generations (intergenerational effects) (Steiger et al. 2015). The results provided evidence for both models across three decades albeit with stronger effects for the vulnerability model as compared to the scar model. However, the study failed to support intergenerational vulnerability and scar effects.

Conclusion

Effects of personality traits on psychopathology (vulnerability models) are often contrasted with inverse models that psychopathology has a lasting impact on personality traits (scar models). Generally, there is small but robust meta-analytic evidence that supports both models based on longitudinal data. However, with respect to the scar model, very few theoretical and empirical insights exist about the cognitive, behavioral, or emotional mechanisms that are caused through the scars of a depressive episode. How these scars manifest their power in an individual's personality structure requires further, intensive research. Finally, it would be of high practical relevance to gain further insight in how psychotherapy can initiate processes to heal these scars and on what level (emotional, behavioral, cognitive) such mechanisms exhibit the highest

potential. Finally, there is still a high amount of unexplained variance in the association between depression and self-esteem that cannot be explained through either model.

Cross-References

- ▶ [Personality and Depression](#)
- ▶ [Psychopathology](#)
- ▶ [Self-Esteem](#)
- ▶ [Self-Esteem Instability](#)

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Schedule for Nonadaptive and Adaptive Personality (2nd Edition)

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Synonyms

[SNAP-2](#)

Definition and Introduction

The Schedule for Nonadaptive and Adaptive Personality, 2nd edition (SNAP-2), is a factor analytically derived self-report measure to assess personality traits ranging from the healthy to the pathological range (Clark et al. 2014). Its 390 items emphasize the extreme ends of traits, which are at the core of personality disorder (PD) and associated with maladaptive functioning. The SNAP-2 was normed on community adults from three US cities/metropolitan areas. The sample was gender balanced and represented a wide range of age, race/ethnicity, socioeconomic status, geographic region, and urban/rural settings.

The SNAP-2 assesses 15 trait dimensions in three broad domains: negative affectivity (NA), positive affectivity (PA), and disinhibition (vs. constraint; DvC). The core scale of the NA domain is negative temperament; other traits in this domain are mistrust, manipulativeness, aggression, self-harm, eccentric perceptions, and dependency. The core scale of the PA domain is positive temperament; other traits in this domain

are exhibitionism and entitlement, with detachment assessing the opposite end of the higher-order dimension. The core scale of the DvC domain is disinhibition; the impulsivity scale also assesses this end of the higher-order domain, whereas propriety and workaholism assess the opposite end. All 15 scales are lower-order scales that tap specific aspects of three broad domains they comprise, with the core scales assessing the most central aspect of each. Scales to assess four of the “Big-Five” (neuroticism, extraversion, conscientiousness, and agreeableness) dimensions of personality (e.g., Digman 1990) (see ► [NEO Inventories](#)) also have been developed (Calabrese et al. 2012).

In addition to its trait scales, the SNAP-2 provides seven validity scales including an overall invalidity index, which help to identify profiles that may be invalid due to such factors as response biases, carelessness, or deliberate distortion. Finally, the instrument contains items to assess the PD criteria in Section II of *DSM-5* (see American Psychiatric Association 2013), which are the same as those in the *DSM-IV* (APA 1994, 2000).

Historical Background

The SNAP was developed as an alternative to the DSM’s categorical conceptualization of PD, describing personality pathology as continuous trait dimensions. The categorical system of PD diagnosis has many documented shortcomings (Clark 2007). The SNAP was developed to provide researchers with a method of improving diagnostic criteria and investigating the validity of specific PD diagnoses and has proven useful in clinical settings as well.

The first complete version of the SNAP consisted of the 15 trait scales, 6 validity scales, and 13 diagnostic scales for *DSM-III-R* PDs (Clark 1993). In the SNAP-2, the trait and validity scales remain unchanged. The diagnostic scales were updated to assess *DSM-IV* (APA 1994; now *DSM-5-II*) PDs, and a validity scale was added. Research using the SNAP-2 has been and continues to be instrumental in advancing the field of

personality assessment (e.g., Morey et al. 2012; Stepp et al. 2012), addressing both the conceptual and empirical challenges of assessing personality pathology (Clark and Ro 2014).

Psychometric Data

Reliability. All 15 SNAP-2 trait scales are highly reliable per various indices (Clark et al. 2014). They demonstrate strong internal consistency in community adult, student, and patient samples (coefficient alphas ranged from 0.78 to 0.92). Dependability (short-range temporal stability; Chmielewski and Watson 2009) was high in both a subset of the SNAP-2 norming sample ($n = 67$; median $r = 0.88$ for 7–30 days) and an inpatient sample ($N = 52$; median 1-week retest $r = 0.81$). Medium-range temporal stability was also high in a subset of the SNAP-2 norming sample ($n = 203$; median $r = 0.86$ for intervals ranging from 31 to 131 days). Pre/post test-retest reliability was appropriately lower in two treatment samples: back pain patients in a 6-month functional treatment program (median $r = 0.70$; range = 0.49–0.82; Vittengl et al. 1999) and depressed patients in a 20-session course of cognitive-behavior therapy (median $r = 0.74$; range = 0.57–0.85; Clark et al. 2003).

Structural and external validity. Factor analyses of the 15 SNAP-2 trait scales indicate that its three higher-order personality factors broadly replicate the structure of “Big Three” personality measures (see ► [Eysenck Personality Profiler](#) [Eysenck and Eysenck 1975]) (Eaton et al. 2011). Most scales have strong loadings on a single factor, but several have significant empirically predicted cross loadings (e.g., manipulativeness often cross loads on NA and DvC). Cross loadings are typically higher in patient than non-patient samples, due to the interrelations of dimensions of psychopathology.

The SNAP-2’s correlations with a wide range of other measures of personality pathology provide considerable support for its validity. It correlates in predictable ways with chart-based ratings of PD-relevant behaviors (Clark et al. 1993), interview-based PD diagnoses (e.g., Morey

et al. 2003; Reynolds and Clark 2001), the MMPI classic and restructured scales (see ► [Minnesota Multiphasic Personality Inventory \(MMPI\)](#); ► [MMPI-2 and MMPI-2-RF Restructured Clinical Scales](#) (Simms et al. 2005), clinician ratings of medium- and long-term outcomes (e.g., Hopwood et al. 2007; Morey et al. 2007, 2012), and myriad self-report and interview measures (e.g., see Markon et al. 2005; contact the SNAP-2's author for a reference list).

The SNAP "Family" Measures

Several versions of the SNAP-2 have been developed to assess personality for various purposes and in diverse populations. The SNAP-Youth Version (SNAP-Y; Linde et al. 2013) assesses adolescent personality using the same trait dimensions as the SNAP-2, with items adapted for younger respondents. The SNAP-Y is useful for assessing both community and clinical youth (e.g., Kushner et al. 2013; Lutzman et al. 2013).

The SNAP Self-Description Rating Form (SNAP-SRF; Harlan and Clark 1999) is an alternative-format, short form of the SNAP-2 that assesses only the 15 trait scales of the full-length measure. The SNAP Other-Description Rating Form (SNAP-ORF; Harlan and Clark 1999) was developed to obtain informant reports of an individual's personality. These two measures are parallel in structure, with the only difference being that the SNAP-SRF is a self-report measure, whereas SNAP-ORF respondents provide ratings for another individual. Both measures have acceptable reliability and convergent/discriminant validity with the original SNAP-2.

Clinical Utility

The SNAP-2 measures are self-administered and can be used individually or in group settings. Their reading level is approximately sixth grade. They are available in two print formats (reusable, with responses recorded on a separate answer sheet, and one-time use, with responses recorded on the test booklet or sheet) and also

electronic format for computer administration. SAS, SPSS, and Excel scoring programs are available.

The SNAP-2 offers an easy-to-use, informative way of assessing a subject's adaptive and maladaptive personality traits in a range of clinical settings. The SNAP-2 characterizes patients using both traits and traditional diagnostic dimensions, providing a multifaceted description of an individual's (mal)adaptive style associated with personality (dys)function. Given the broad scope of the instrument, clinicians are able to gain a large amount of information regarding patients and develop more effective treatment plans.

Availability

The SNAP-2 measures, scoring programs, and manual are freely available for both clinical use, *providing that clients are not charged*, and for use in unfunded, noncommercial research. They also are available on a sliding scale for other uses (e.g., billed clients, funded research) upon completion of a clinical or research license in all cases. Materials are available in various formats. Translations of the SNAP-2 have been developed in Russian and Estonian, and an Italian translation is being developed. Individuals interested in using and/or translating any of the SNAP-2 measures should contact its author for a research, clinical, and/or translation license: la.clark@nd.edu

Conclusion

The SNAP-2 measures provide comprehensive assessment of the full adaptive-to-maladaptive range of personality traits for both researchers and clinicians. The measures are used widely both clinically and in research and exist in a variety of formats to suit diverse assessment needs. The scales are reliable and have undergone extensive validation. They are compatible with the alternative model of personality disorder in *DSM-5*'s Section III, and the primary SNAP-2 also assesses the *DSM-5*, Section II personality disorders.

Cross-References

- ▶ [Eysenck Personality Profiler](#)
- ▶ [Minnesota Multiphasic Personality Inventory \(MMPI\)](#)
- ▶ [MMPI-2 and MMPI-2-RF Restructured Clinical Scales](#)
- ▶ [NEO Inventories](#)

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Schema Therapy

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Synonyms

[Schema-focused therapy](#)

Definition

Schema therapy (ST) is an integrative psychotherapy model which grew out of Beck's (1976) cognitive therapy, gradually developing into a unique integrative treatment for a spectrum of long-standing emotional/relational difficulties, including personality disorders.

Schema therapy (ST) is an integrative psychotherapy model which grew out of Beck's (1976) cognitive therapy, gradually developing into a unique integrative treatment for a spectrum of long-standing emotional/relational difficulties, including personality disorders. Beginning in the 1980s, Young (e.g., 1990) noted that cognitive therapy with nonresponders or relapse-prone clients required shifting the focus from surface-level cognitions to deeper constructs – namely, schemas – which gave the approach its name. Schemas are enduring foundational mental structures, which go beyond being purely cognitive features of the mind to encompass emotions, bodily sensations, images, and memories. Young (1990) and Young et al. (2003) proposed a taxonomy of early maladaptive schemas, thought to emerge when core emotional needs go unmet or are met inappropriately, usually by a child's caregivers. (Though the formation of schemas is driven to a large degree by unmet needs, other factors such as temperamental vulnerability and cultural norms play major roles as well.) These needs (e.g., for safety, security, validation, autonomy, spontaneity, and realistic limits) are seen as universal. In infancy and childhood, meeting these needs falls to the child's caregivers and is considered necessary for a child to develop into psychological health as an adult.

ST argues that enduring or recurrent distress often stems from present-day activation of early maladaptive schemas. At times, problems directly involve the distress felt when the schemas are activated. Quite often, however, they result from the characteristic behaviors enacted in respond to (or coping with) schemas – behaviors referred to as “coping styles” – typically ones involving overcompensation, avoidance, or surrender (i.e., fight, flight, or freeze).

Starting in the mid-1990s, Young and colleagues (e.g., McGinn and Young 1996; Rafaeli et al. 2010) began recognizing the necessity of revising ST to move beyond a predominant focus on universal *needs*, pervasive *schemas*, and characteristic *coping styles*. These constructs are all *trait*-like and therefore leave, unexplained, much of the phenomenology and symptomatology of the clients for whom ST was developed in

the first place – individuals who manifest quick and often intense fluctuation among various self-states or moods. This led to the development of the *mode* concept. A mode reflects the predominant schema and/or coping reaction active for an individual at a particular moment in time. Modes are transient, and at any given moment, a person is thought to be predominantly in one mode. Though most individuals inhabit various modes over time, the manner in which they transition from one mode to another – that is, the degree of separation or dissociation between the modes – differs and lies on a spectrum. On the milder end, modes could be like moods; at the most extreme end, a total separation and dissociation could exist between modes, with each entailing a complete and different personality, as is the case in dissociative identity disorder.

Individuals also differ in the specific identity of the modes they tend to inhabit. For example, persons suffering from borderline personality disorder (BPD) tend to experience abrupt transitions and a strong dissociation among a *specific* set of characteristic modes (Lobbestael et al. 2008). While the concepts of modes and of mode work are broad enough to describe any individual, recent efforts have been made to move from an abstract mode model to detailed, concrete, and disorder-specific mode models (cf., Arntz and Jacob 2012).

The Emergence of Modes and their Taxonomy

Human beings are born organized with a basic set of loosely interconnected “behavioral states,” specific patterns of psychological and physiological variables that occur together and repeat themselves, often in highly predictable sequences, and that are relatively stable and enduring over time. Discrete behavioral states comprise particular affects, arousal, and energy levels, motor activities, cognitive processing (e.g., abstractness of thought), access to knowledge and autobiographical memory, and a sense of self (Putnam 1989). These states reflect the total pattern of activation in the brain at a particular moment in time. They serve as a clustering of functionally synergistic processes that allow the mind as a whole to form a cohesive state of activity, which maximizes the efficiency and efficacy of the processes needed in

a given moment in time to deal with a current situation. Over time and with repeated activation, these basic states cluster together into self sub-systems – i.e., modes.

ST posits the existence of four major categories of modes. As a treatment approach, it argues that each category requires a very different clinical response.

Child Modes When a child’s emotional needs are met adequately enough, the child (and later the adult) gains access to a **Contented/Happy Child mode**. In it, the person experiences closeness and trust and is able to draw on inner sources of vitality, spontaneity, and curiosity. ST seeks to reconnect clients with their Happy Child mode by removing barriers to these feelings and creating opportunities for such feelings even when no such opportunity existed in childhood.

When a child’s needs do not get adequately met, a **Vulnerable Child (VC) mode** emerges. The VC mode is present for everyone to some degree, but its form and content differ from person to person, depending primarily on the unique profile of met and unmet needs. Though rooted in childhood experiences, the VC mode can often be triggered in an adult’s life by situations that bear varying degrees of similarity to the originating experience (e.g., aversive or ambiguous interpersonal interactions). When these occur, clients essentially re-experience an earlier trauma, typically of a relational kind (Howell 2013). The re-experiencing brings with it concomitant distress (e.g., fear, shame, loneliness). Typically, the client is not aware that the distress is linked to earlier experiences; instead, when in the VC mode, clients simply think and feel as they did as vulnerable or mistreated children and expect others to behave toward them the way people did at that age. In other words, the VC mode essentially embodies, in their purest form, most of the maladaptive schemas (with the exception of those characterized by acting out).

A primary goal of ST is to heal the relational trauma of unmet needs. To do so, ST helps clients make their VC mode present and visible, allow it to receive care (at first from the therapists themselves), and, over time, learn how to internalize

and generalize this care. This process, in which therapists identify and partially gratify the unmet needs of the VC, is the central therapeutic stance within ST and is referred to as *limited reparenting*.

In addition to the Happy and Vulnerable child modes discussed above, early life experiences often give rise to two additional child modes. The first is the **Impulsive/Undisciplined Child (IUC) mode**, which often results from improper limit setting on the parents' part. It embodies those schemas characterized by externalizing behavior (e.g., entitlement and insufficient self-control schemas). The second is the **Angry Child (AC) mode**, which emerges in spontaneous angry (or even rageful) reactions to unmet needs. The AC mode can be thought of as an early manifestation of a coping reaction, and its function is a protective one. However, just like other coping reactions (and coping styles), it often fails to achieve its intended goal. When either the AC or the IUC modes are present, ST calls for empathic yet firm limit setting. It also calls for an empathic exploration to discover the unmet needs (which typically underlie the AC mode) or to distinguish whims and wishes from needs (if the IUC mode is present).

Coping Modes Like the Child Modes described above, **Maladaptive Coping Modes** also represent behavioral states that become full-blown modes due to repeated activation. But whereas Child Modes (and particularly the VC) capture the helpless and muted emotional reactions of the child, Coping Modes develop out of a child's basic survival operations: they are primarily automatic adaptation-promoting measures taken in order to survive in an emotionally negligent or otherwise noxious environment.

Maladaptive Coping Modes correspond to the three coping styles (overcompensation, avoidance, or surrender). For different individuals, these modes may take on varied forms: overcompensation may come across as grandiose self-aggrandizement, or as perfectionistic over-control, avoidance as emotional (and sometimes dissociative) detachment or as behavioral inhibition, and surrender as compliance and/or dependence.

A prominent avoidant Coping Mode is known as the *Detached Protector*. This mode disconnects clients from emotions – painful ones, but also adaptive ones such as sadness over a loss, assertive anger over a violation, feelings of closeness to others, or a sense of vitality and motivation. The Detached Protector can take the form of feeling numb, cut off from others and/or oneself, or feeling nothing at all. Clients in this mode may also engage in various behaviors aimed at distracting from or avoiding emotion: self-isolation, emotional eating, excessive drinking, or drug use. A goal of ST is to bypass the Detached Protector so that the therapist may make contact with the VC mode.

The Detached Protector is often present in individuals prone to dissociation and avoidance (e.g., ones with BPD). Other clinical groups are characterized by other coping modes. For example, *the Self-Aggrandizer*, often seen in narcissistic personality disorder, is an overcompensating Coping Mode meant to bolster the fragile self-esteem of a shame-filled Vulnerable Child. The *Bully/Attack Mode*, often seen in individuals with antisocial traits, is a more extreme adult version of the Angry Child mode. The *Compliant Surrenderer*, typical of individuals with dependent personality traits, is an example of a surrender Coping Mode.

Once established, coping modes continue to be deployed when schemas are triggered, as a way of coping with the ensuing distress. Paradoxically, though, coping modes lead to schema maintenance, by blocking the opportunity for new corrective emotional learning. Thus, they are considered, by definition, maladaptive and are typically seen as a cause of much, if not most, present-day problems. It is important to note, however, that coping modes involve behaviors that were, at some point, adaptive responses to difficult (or even impossible) interpersonal environments. Still, when this mode becomes the main tool for coping with stressful situations later in life, it ceases to be adaptive. In ST, the therapist uses *empathic confrontation* to help clients recognize the costs involved in the inflexible use of such modes and to reduce their reliance on these modes.

Parental Modes A third and more pernicious class of modes are the **Internalized Dysfunctional Parental Modes**. Through processes of introjections and implicit learning through modeling, children learn to treat themselves as their early environment treated them – ways that are often quite dysfunctional. Of course, though the term chosen by Young to label these modes points directly to the parents as their source, not all critical, punitive, or demanding self-states result from direct internalization of parental figures. At times, it is broader society's messages regarding some aspect of the self, present in the child, that are internalized to create one of these vicious, self-deprecating self-states (e.g., an internal homophobic self-state). At other times it might be a harmful non-parental person or a peer group with whom the child had some direct contact (e.g., sexual abuse perpetrated by a stranger, ostracism within one's social milieu). Still, good-enough parental support in such adverse circumstances tends to mitigate their long-term negative impact dramatically, resulting in much weaker internal influence of malevolent self-states.

ST recognizes two prototypical forms of Internalized Parental Modes: a **Punitive Parent** and a **Demanding/Critical Parent**. In the former, individuals become aggressive, intolerant, impatient, and unforgiving toward themselves (or others), usually due to the perceived inability to meet the mode's standards. In the latter, they may feel as if they must fulfil rigid rules, norms, and values and must be extremely efficient in meeting all these. In either mode, individuals might become very critical of self or of others and, as a result of the VC Mode's co-activation, may also feel guilty and ashamed of their shortcomings or mistakes, believing they should be severely punished for them (Arntz and Jacob 2012). Clinically, ST works toward helping clients recognize these parental modes, come to view them as ego-dystonic voices, assertively stand up to their punitiveness or criticism, and learn to protect and shield the VC mode from their destructive effects.

Healthy Adult Mode Alongside painful child modes, maladaptive coping modes, and

dysfunctional parental modes, most people also have self-states that are healthy and positive. We discussed one (the Happy Child mode) earlier. The other, referred to as the **Healthy Adult (HA) mode**, is the part of the self that is capable, strong, and well-functioning. When parents do an adequate job meeting the child's basic needs, they model a healthy adult approach (instead of a punitive, demanding, or neglectful one). Indeed, for many clients, the HA mode is modeled after these positive aspects of their caregivers. For others, who lacked such models, the task of constructing such a mode is more challenging, yet not impossible. In fact, a major aim of ST is to have the therapist's behaviors, and particularly their limited reparenting efforts, serve as a model for the development or reinforcement of this mode.

The Healthy Adult mode, like an internalized good-enough parent or therapist, has to respond flexibly to the various other modes. It nurtures, protects, and validates the VC mode, sets limits on the impulsivity and the angry outbursts of the angry and impulsive child modes, negotiates with maladaptive coping modes so as to limit their presence, and combats the effects of dysfunctional parent modes.

Empirical Support

The efficacy of individual ST as a treatment for several disorders, particularly personality disorders, has been demonstrated in several studies to date (e.g., Giesen-Bloo et al. 2006; Nadort et al. 2009; Bamelis et al. 2014). Additionally, very promising results emerged for the use of ST in a group format with BPD patients (Farrell et al. 2009) and for individual ST in the treatment of chronic depression (Malogiannis et al. 2014). Overall, the evidence for the efficacy of ST can be considered promising but preliminary, as there have not yet been any direct replications of the RCTs reviewed above.

Although tests of ST as a complete intervention package provide indirect support for the utility of the theoretical model, more research is needed to further validate it as a model of pathology. Some research into the reliability and validity of modes has been conducted (see Lobbestael 2012;

Sempértegui et al. 2014, for reviews), mainly centering on the development of the Schema Mode Inventory (Lobbestael et al. 2010), a measure of 14 clinically relevant schema modes. Using this measure, modes have largely been found to relate to personality disorders in theoretically coherent ways (Lobbestael 2012). For example, patients with BPD have been found to be higher in the frequency of the Abandoned/Abused Child, the Punitive Parent, the Detached Protector, and the Angry Child than both healthy controls and Cluster C personality disorder patients. Experimental studies (Arntz et al. 2005; Lobbestael et al. 2009) have begun to validate the theory that modes are state-like experiences that occur in response to triggers in the environment and much more so for personality disorder patients. More work is needed to show that in addition to activated emotion, modes also involve characteristic ways of thinking and behaving. Finally, a priority for research into the mode model lies in the area of process-outcome research within intervention studies, to demonstrate that in-session mode states can be reliably recognized and, further, that working actively with modes transforms underlying schemas and leads to lasting mental health.

Summary

ST is an integrative therapeutic approach used in the treatment of long-standing personality disorders and relational difficulties. The etiological/developmental theory underlying it shares many of the assumptions of attachment theory as well as object relations, self-psychology, and relational psychoanalysis. Its pragmatism stems from Beck's cognitive therapy, from which it emerged (see Rafaëli et al. 2014). The experiential techniques used within it are rooted in gestalt and process-experiential approaches. Finally, its current emphasis on a multiplicity of modes (or self-states) corresponds quite closely to various models within personality and clinical psychology which highlight the non-unitary nature of the self.

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Schema-Focused Therapy

► Schema Therapy

Schemas

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Introduction

Schemas are higher-order cognitive structures that represent general bundles of knowledge of a particular concept (e.g., Fiske and Taylor 1991; Markus and Zajonc 1985; Smith 1998). When a stimulus matches one's schema, that schema is activated and used to make judgements and decisions with greater ease and certainty and to make assumptions about missing information and form inferences (Carlston and Smith 1996). Schemas direct attention to relevant information and away

from irrelevant information, influence how new information is encoded and how people remember old information, allow people to make inferences about information that is missing, and guide people's judgements and evaluations, all of which influence how new information is perceived, encoded, and remembered (Fiske and Taylor 1991; Smith 1998).

General Description

Although the notion of schemas is prevalent among many psychological theories, there has been relatively little empirical investigation of the structure and nature of schemas (see Markus and Zajonc 1985, for a review). More is known about how schemas function. Schemas influence how information is encoded and remembered and they affect how people make decisions and judgements. These processes are briefly described below; more thorough reviews can be found in Fiske and Taylor (1991) and Smith (1998).

Smith (1998) identifies nine fundamental assumptions of schemas:

1. A schema represents general knowledge or a "theory" about an object or concept.
2. They are abstract and represent general knowledge rather than specific instances of knowledge.
3. They are activated by either explicitly thinking about a concept or through perceiving related stimuli. When a schema is activated, people have access to all of the information that is part of the schema. Schemas cannot be partially activated.
4. Schemas vary in their accessibility. They are more accessible when they are used more frequently. Recently used schema is also more accessible. In turn, when schemas are accessible, they are more likely to be activated and used.
5. Individual schemas for different concepts are not interlinked. They function independent of each other, that is, activating one schema does not necessarily activate related schema.

6. The primary function of schemas is to aid in interpretation of information. The interpretation of ambiguous information is determined the schema that is activated. In this way, schema activation affects how information is evaluated and people's behavior toward a particular stimulus. After activation, they can influence the speed at which people perceive information, details that are noticed and how they are interpreted, and what information people perceive as similar or different.
7. Schemas direct people's attention toward information that is relevant to that schema. People are attentive to information that is consistent with their schema and process that information quickly and with relatively little effort, and individual stimuli are perceived as more similar to the schematic category. Schemas also direct attention toward information that is inconsistent with the schema or novel. This information is carefully processed and takes longer to encode because it requires more time and effort to assimilate. People are particularly attentive to information that is extremely inconsistent with an existing schema. This is especially the case with new or weak schema.
8. Schemas influence how information is retrieved from memory and how it is judged. Information that is consistent with a schema is more easily accessible. People tend to have better memories for schema-relevant information, whereas they tend to neglect schema-irrelevant information. They also tend to remember information that is consistent (vs inconsistent) with their schema. In general, schema strength affects memory such that schema-consistent information that is tied to stronger schemas is more easily remembered, whereas schema-inconsistent information that is tied to weaker schemas is more easily remembered. When it is difficult to retrieve information from memory or when information is ambiguous, schemas are used as guides that aid guessing and reconstruction of memory.
9. Schema processing occurs at the preconscious level, that is, people are not aware of the effects

of schemas. Instead, they assume that their interpretations and memories are more or less objective and unaffected by their existing knowledge structures.

Schemas allow people to create a consistent and coherent understanding of the world from fragmented and complex information across many distinct individual instances (Smith 1998). They can come in the form of scripts (i.e., typical sequences of events) which allow people to comprehend and make sense of events. People access their existing schema for a particular concept or event in order to fully understand them and to anticipate future events. For example, it is difficult to understand and predict the behavior of football players during a game unless one draws on one's schema for football.

Schemas also come in the form of stereotypes (i.e., general characteristics of social groups) or prototypes (i.e., characteristics of individual group members; Fiske and Taylor 1991; Smith 1998). Schemas in these forms allow people to make sense of others' ambiguous behaviors. Specifically, people draw on schemas to make dispositional inferences about others, even when those characteristics are irrelevant or unrelated to the current context or situation. People also draw on schemas in order to predict future events, including others' behaviors.

Importantly, the effects of schemas can be unrelated to memory. Schemas contain emotional information. Activating schemas that contain particularly positive or negative emotional content can have immediate effects on people's judgments (Fiske and Taylor 1991). For example, activating the prototype for criminal may produce a fear response and corresponding fearful behaviors, whereas activating the prototype for caregiver may produce calm and connected affect and corresponding behaviors.

Conclusion

Although there has been relatively little empirical investigation of the structure and nature of

schemas, their function is better understood. These cognitive structures direct attention; affect inferences that are made about missing information; guide judgements, evaluations, and behaviors; and influence memory and retrieval. Thus, schemas allow for more-or-less accurate processing of social information with relatively little effort and use of cognitive resources.

Cross-References

- ▶ [Depressive Schemata](#)
- ▶ [Gender Schemas](#)
- ▶ [Self-Schema](#)
- ▶ [Schema-Focused Therapy](#)
- ▶ [Scripts](#)

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Julie Aitken Schermer was born Julie Aitken in 1969 in Toronto, Ontario, Canada. She became Julie Aitken Harris in 1990 and later Julie Aitken Schermer in 2007. She completed her Honors Bachelor of Arts degree in 1992 at The University of Western Ontario in Personality Psychology under the supervision of the late Sampo V. Paunonen. Her undergraduate thesis dealt with perceived and actual personality differences of students in engineering, nursing, and psychology. Her Master of Arts degree was completed in 1993 under the supervision of the late J. Philippe Rushton. Her M.A. thesis examined the relationship between salivary testosterone and prosocial and aggressive behaviors in men and women. Her Ph.D. was completed in 1999 in Personality Psychology under the supervision of Philip A. Vernon. For her Ph.D., she studied the phenotypic, genetic, and environmental correlations between measured intelligence and self-reported personality.

Professional Career

Julie Aitken Schermer was an assistant professor at Brescia University College, London, Ontario for 2 years. She was then hired as an assistant professor in the Administrative and Commercial Studies Program (later the Department of Management and Organizational Studies) in the Faculty of Social Sciences at The University of Western Ontario where she was tenured in 2006 and became full professor in 2014. She has authored or co-authored over 90 peer-reviewed articles; 3 book chapters; 3 editions of a Canadian Business Statistics textbook; the vocational interest measure, the Jackson Career Explorer; and 100 conference presentations. Her publications have appeared in journals such as *Journal of Career Assessment*, *Journal of Intelligence*, *Personality and Individual Differences*, and *Twin Research and Human Genetics*. She is an associate editor for *Personality and Individual Differences* and is on the editorial board for *Journal of Intelligence*.

Research Interests

Julie Aitken Schermer's research interests include personality, intelligence, vocational interests, and behavior genetics. In her past research, she has shown that twins are more accurate in judging their co-twin's personality on traits that are more heritable, that testosterone is heritable in both men and women, and that personality and intelligence have meaningful correlations. Presently she is working on refining her vocational interest measure, the Jackson Career Explorer, a continuous and behaviorally based assessment tool.

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Schizoid Personality Disorder

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Definition

Schizoid personality disorder is a personality disorder that is associated with social detachment, emotional aloofness, and significant clinical impairment. Diagnostic criteria include a lack of close relationships, the preference for solitary activities, little interest in sexual experiences with another person, little interest in other activities more broadly, a lack of close friends other than first-degree relatives, indifference to praise or criticism, emotional coldness, detachment, and flattened affect.

Introduction

Schizoid personality disorder (SZPD) is a mental disorder characterized by social detachment and affective flatness. SZPD is one of the most under-researched and poorly understood personality disorders within the *DSM-5*. Consequently, accurate prevalence estimates for SZPD are scarce, but they tend to range from 1% to 5% of the general population (American Psychiatric Association

[APA] 2013). There has also been a significant amount of debate regarding the validity of the diagnosis; given its low prevalence rate and concerns that the SZPD diagnosis does not represent a distinct diagnostic construct, the *DSM-5* Task Force recommended eliminating SZPD from the latest edition in its entirety. However, proponents of the diagnosis argued that it would lead to a loss of significant clinical understanding when diagnosing and treating those with schizoid personality features. Consequently, SZPD remains a diagnosis within the latest edition of the *DSM*. This entry will begin by providing an overview of the current *DSM-5* diagnostic criteria for SZPD. A historical examination of SZPD throughout the editions of the *DSM* will also be provided. We will then review the clinical characteristics associated with SZPD. Finally, we will conclude by highlighting important treatment considerations for the disorder, with the caveat that more research is needed to fully understand SZPD.

Current Diagnostic Criteria for Schizoid Personality Disorder

Broadly speaking, the *Diagnostic and Statistical Manual of Mental Disorders – Fifth Edition (DSM-5; American Psychiatric Association [APA] 2013)* defines personality disorders as enduring patterns of internal experiences and behaviors that are outside of the individual's cultural context. Consequently, personality disorders are considered to be chronic and rigid disorders, which often lead to clinically significant distress and/or impairment in activities of daily life. Though a controversial diagnosis, modern conceptualizations of SZPD highlight a lack of and detachment from close social or familial relationships and the restricted range of emotional expression as defining features of this debilitating diagnosis. SZPD is often included as a "Cluster A" personality disorder, which also includes paranoid personality disorder and schizotypal personality disorder. Individuals with these personality disorders often appear odd or eccentric to others, and they tend to experience deficits in social functioning.

To meet *DSM-5* (APA 2013) criteria for SZPD, an individual must be at least 18 years of age and demonstrate four or more of the following seven diagnostic criteria: (1) neither desires nor enjoys close relationships, including being part of the family unit; (2) almost always chooses solitary activities; (3) has little, if any, interest in sexual experiences with another person; (4) takes pleasure in few, in any, activities; (5) lacks close friends or confidants other than first-degree relatives; (6) appears indifferent to praise or criticism by others; and (7) shows emotional coldness, detachment, or flattened affect. The aforementioned characteristics of the disorder must not occur exclusively during the course of schizophrenia, bipolar disorder, depressive disorder with psychotic features, or autism spectrum disorder. Symptoms must also not be the result of the physiological effects of a medical condition.

Careful consideration should also be given when making a differential diagnosis, as SZPD shares similar characteristics with other mental disorders. Although an individual with SZPD may experience a brief psychotic episode, SZPD may be distinguished from delusional disorder, schizophrenia, bipolar disorder with psychotic features, and depressive disorder with psychotic features, as these diagnoses must include an episode of enduring psychotic symptoms (APA 2013). Evidence of SZPD must also exist prior to the development of any psychotic symptoms, and symptoms must remain once the psychosis has remitted. SZPD may also be difficult to distinguish from autism spectrum disorder, as both are generally characterized by social deficits. The *DSM-5* (APA 2013) suggests that individuals with autism spectrum disorder likely experience greater difficulties in social functioning, as well as engagement in stereotyped and/or repetitive behaviors (e.g., lining up or flipping objects), as compared to those individuals diagnosed with SZPD.

SZPD also shares diagnostic characteristics with other personality disorders. For example, flattened affect and social isolation are also characteristics of schizotypal personality disorder and paranoid personality disorder. However, SZPD is distinguished from schizotypal personality

disorder by a lack of odd cognitive and perceptual disturbances. SZPD may also be distinguished from paranoid personality disorder by the absence of suspiciousness and paranoia in SZPD. While social isolation is characteristic of both SZPD and avoidant personality disorder, those with avoidant personality disorder tend to suffer from a fear of embarrassment in front of others, as well as subsequent fears of rejection. In contrast, individuals with SZPD do not appear to outwardly desire any type of social connection or intimacy. In addition, individuals with obsessive-compulsive personality disorder may experience social isolation as a result of their devotion to work and distress surrounding the experience of affect, but unlike those with SZPD, individuals with obsessive-compulsive personality disorder possess the capacity for social connection and intimacy. Finally, the *DSM-5* (APA 2013) reminds the clinician that, while someone may appear to be a loner or detached from others, an individual diagnosed with SZPD must demonstrate inflexible and maladaptive personality traits, which results in a significant amount of distress experienced by the individual or considerable impairment in activities of daily living.

A Historical Overview of SZPD in the DSM

The term *schizoid* is originally derived from the Greek word *schiz*, meaning, “to split;” as such, the term *schizoid* suggests that there are aspects of the individual’s personality that are “split off” or detached from one’s surroundings or reality (Hopwood and Thomas 2012). The term “schizoid” was first introduced to the psychiatric and medical community by psychiatrist Eugen Bleuler in 1908. At that time, he described the schizoid individual as having a limited ability to express their emotions, as well as a tendency to oscillate between emotional sensitivity and emotional flatness (Hopwood and Thomas 2012; Mittal et al. 2007). As outlined by Peralta and Cuesta (2011), Bleuler conceptualized psychotic psychopathology as being on a continuum, which ranged from the less-severe schizoid personality

and potentially dormant schizophrenia to schizophrenia proper.

Unlike other personality disorders, SZPD has been included in all five iterations of the *DSM*. The first edition of the *DSM*, which was published in 1952, included short paragraphs that outlined the characteristics of each disorder, generally not exceeding 200 words; consequently, there was significant room for interpretation by clinicians, which resulted in problems related to diagnostic reliability (Blashfield et al. 2014). Early diagnostic conceptualizations of SZPD were based upon the writings of German psychiatrist Emil Kraepelin who viewed features associated with the schizoid personality as an antecedent to the development of an underlying psychotic disorder (e.g., schizophrenia). At that time, diagnostic criteria for SZPD included the avoidance of intimate relationships with others, an inability to express hostility or aggression directly, and “autistic thinking” (i.e., a preoccupation with inner thoughts or internal experiences). SZPD traits were believed to develop in childhood, based on observations of children with excessive shyness, quietness, obedience, and sensitivity. It was also believed that children with SZPD characteristics became increasingly withdrawn, isolative, and eccentric as they reached puberty and beyond.

With the introduction of the *DSM-II* (APA 2013), the diagnostic criteria for the schizoid personality remained largely unchanged. As such, diagnostic criteria included shyness, sensitivity, reclusiveness, avoidance of close relationships, and eccentric behavior. Much like the *DSM-I*, autistic thinking, as well as an inability to express hostility and aggression, remained important components of the disorder. The *DSM-II* also specified that individuals with SZPD tend to react to upsetting events with a sense of disengagement or emotional flatness.

In 1980, psychiatry moved toward a new conceptualization and understanding of psychiatric diagnosis and published the *DSM-III* (APA 1980). Prior to the development of the *DSM-III*, mental disorders were thought of in dimensional terms, heavily influenced by the psychoanalytic and psychodynamic tradition. However, by the 1980s, psychiatry as a discipline began to

emphasize the importance of empirical evidence in the diagnosis of mental disorders. Mayes and Horowitz (2005) provided a historical rationale for this new understanding of mental disorders: “The *DSM-III* emphasized categories of illness rather than blurry boundaries between normal and abnormal behavior, dichotomies rather than dimensions, and overt symptoms rather than underlying etiological mechanisms” (p. 250). In other words, psychiatry wished to communicate clear criteria for what was thought of as a mental disorder and move away from vague, psychoanalytic concepts as explanations for the roots of dysfunction (Blashfield et al. 2014).

Psychiatry consequently transitioned from a Kraepelinian understanding of SZPD (i.e., as a precursor to later psychotic illness) and instead drew heavily upon the work of another German psychiatrist, Ernst Kretschmer (Hopwood and Thomas 2012; Millon 1981). There was significant overlap between SZPD and avoidant personality disorder at that time, and the *DSM-III* (APA 1980) aimed to distinguish the two disorders as distinct constructs. As a result, those involved in the development of *DSM-III* viewed SZPD from a Kretschmerian perspective, who conceptualized schizoid personality as two distinct subtypes: the *hyperaesthetic* subtype, which was characterized by uneasiness (similar to what is now considered avoidant personality disorder), and the *anesthetic* subtype, which was characterized by flattened affect (similar to modern conceptualizations of SZPD; Hopwood and Thomas 2012). While the SZPD diagnosis had originally been used as a diagnostic category to understand all seemingly odd or isolative behaviors, the new *DSM-III* conceptualization of SZPD focused on the emotional and interpersonal indifference that characterizes modern conceptualizations of the disorder. SZPD was subsequently differentiated from schizotypal personality disorder and avoidant personality disorder, and the *DSM-III* criteria for SZPD included a lack of interest in relationships with others, the preference to remain alone, limited sexual interest, a lack of pleasure or interest in activities more broadly, a lack of close friendships or social connections with others, emotional detachment, and indifference to rejection, praise, or criticism.

The diagnostic criteria of SZPD from *DSM-III* to *DSM-IV* remained largely unchanged, with the exception of one minor alteration: indifference to rejection was removed, as it was believed that the phrase was too broad and potentially left room for a significant amount of clinician interpretation (Hopwood and Thomas 2012). However, as preparations began for the release of the fifth edition of the diagnostic manual, there was a significant amount of debate surrounding the SZPD diagnosis among those on the *DSM-5* Task Force. Given its low prevalence rate and concerns that SZPD does not represent a distinct diagnostic construct, it was recommended that SZPD be eliminated as a diagnosis from the latest edition of the *DSM*, as the SZPD diagnosis demonstrated poor psychometric qualities as a distinct construct.

To address validity and reliability concerns surrounding the diagnosis, the *DSM-5* Task Force argued that schizoid personality features could be adequately captured through dimensional ratings of five personality disorder types (i.e., antisocial, avoidant, borderline, obsessive-compulsive, and schizotypal) and six personality trait domains (i.e., negative emotionality, introversion, antagonism, disinhibition, compulsivity, and schizotypy). For a thorough discussion and examination of this new model of personality assessment, see Waugh et al. (2017). Recent research has supported this alternative framework for SZPD. For example, Hummelen et al. (2015) found that the psychometric properties of the traditional conceptualization of the SZPD diagnosis were quite poor. However, when examined as a dimensional construct, SZPD traits fared better and were relatively distinct from other personality disorder criteria. In fact, the factor structure reported by Hummelen and colleagues (i.e., intimacy avoidance, withdrawal, and restricted affectivity) was in congruence with the alternative model for personality disorders proposed for *DSM-5*. Similarly, Ahmed et al. (2012) found that when SZPD was examined as a dimensional construct, it outperformed a categorical conceptualization of the disorder and significantly predicted social, mental, and emotional health measures.

Those who wished to retain the diagnosis of SZPD argued that there were, in fact, features of the construct that would not be adequately captured by the alternative model, and the removal of the diagnosis of SZPD would likely result in the loss of a nuanced understanding of a disorder that causes some individuals a significant amount of clinical distress. For example, it has been found that the inability to experience pleasure from social situations is predictive of SZPD, while the need to belong is associated with avoidant personality disorder (Winarick and Bornstein 2015). As such, it appears as though the underlying interpersonal mechanisms of each disorder are opposed to one another: one disorder is associated with a *lack* of a desire to form close relationships (i.e., SZPD), while the other disorder is associated with the desire to *connect* with others (i.e., avoidant personality disorder). Moreover, characteristics associated with the odd/eccentric personality disorders have been associated with the development of psychotic illnesses in adulthood, such as schizophrenia (Ekstrøm et al. 2006). Therefore, the ability to accurately assess for the presence of SZPD symptoms may have important implications for early intervention and treatment of psychotic illness.

Research has also addressed the importance of assessing for the presence of schizoid personality features using empirically validated assessments. For example, Kosson et al. (2008) developed the Interpersonal Measure of Schizoidia (IM-SZ), in order to assess for the interpersonal aspects of SZPD. The authors examined the measure using two samples of incarcerated individuals. Across the two studies, the authors found that the measure demonstrated adequate reliability. In addition, it was found that the IM-SZ correlated with other measures of schizoid personality pathology in the expected directions. Therefore, it appears as though aspects of SZPD can be meaningfully measured using easy-to-administer assessment techniques, which suggests that the diagnosis is in fact a distinct clinical construct. Ultimately, the *DSM-5* Task Force retained the *DSM-IV* diagnostic criteria for SZPD and moved the proposed alternative model to Section III (i.e., disorders that require further study) of the manual.

Clinical Characteristics of SZPD

Historically, SZPD is one of the least studied personality disorders within all iterations of the *DSM* (Treibwasser et al. 2012). Consequently, prevalence estimates of the disorder within the general population may not be entirely accurate. It is also not surprising that individuals with this disorder rarely present for treatment or participate in empirical investigations due to the social functioning deficits associated with SZPD. As such, the field's understanding of the disorder is severely limited and heavily dependent upon case examples (Novović et al. 2013). Therefore, it is difficult to determine whether the identified characteristics of the disorder generalize to all individuals with schizoid traits or SZPD or just to those who have been extensively studied for case examples.

Despite the lack of research associated with the disorder, some prevalence estimates exist within the literature. As outlined in the *DSM-5* (APA 2013), the National Comorbidity Survey Replication suggested a prevalence rate of 4.9% within the general population, while National Epidemiologic Survey on Alcohol and Related conditions (2001–2002) found a prevalence rate of 3.1% within the general population. However, earlier research reported a prevalence rate of less than 1% in the general population (Weissman 1993). More recent empirical work echoes these earlier results. Specifically, Hummelen et al. (2015) examined the prevalence of SZPD within a sample of 2,619 patients and found only 19 patients (or 0.7% of the sample) who met diagnostic criteria for SZPD. Based upon the available evidence, it is likely that the prevalence rate of SZPD ranges from approximately 1 to 5% in the general population, though further epidemiological research is warranted.

Much like the prevalence estimates for SZPD, the demographic and clinical characteristics associated with SZPD are also poorly understood. For example, very little is known about the developmental origins of SZPD in childhood or adolescence (Esterberg et al. 2010). Although a personality disorder cannot be diagnosed prior to the age of 18, it is not uncommon for problematic

personality traits to be apparent from a very young age. With regard to SZPD, it is believed that childhood features include isolation, a lack of relationships with same-aged peers, poor achievement in school, and potential teasing or bullying by others (APA 2013). These traits tend to remain stable, and they are known to lead to the development of SZPD, schizotypal personality disorder, or schizophrenia in adulthood (Esterberg et al. 2010; Wolff et al. 1991). Major depressive disorder in childhood and/or adolescence also appears to be predictive of SZPD in adulthood (Ramklint et al. 2003). There also appears to be a significant genetic component of SZPD; Kendler et al. (2006) assessed the odd/eccentric personality disorders in 1,386 young adult twin pairs using the Norwegian Inclusive of Public Health Twin Panel and concluded that SZPD had a genetic liability of 26%. However, further research is needed to determine the developmental trajectory of schizoid traits.

In adulthood, SZPD is more often diagnosed in men than in women (APA 2013; Hummelen et al. 2015). SZPD has also been associated with a significant amount of clinical impairment. For example, as part of a larger longitudinal study, Ullrich, Farrington, and Cold (Ullrich et al. 2007) examined the *DSM-IV* personality disorders and their associations with life success among 304 men at age 48. Within this sample, 6.3% of the men met criteria for a diagnosis of SZPD. Correlational analyses revealed that SZPD was significantly negatively correlated with successful intimate relationships, status, and wealth. Similarly, Cramer et al. (2006) examined the relationship between quality of life and personality disorders within a large sample of adults ($N = 2053$). Individuals with avoidant, schizotypal, paranoid, schizoid, and borderline personality disorders demonstrated the greatest reductions in quality of life.

As SZPD is characterized by social detachment, chronic disconnection from the social world may lead to a retreat into one's internal fantasy world, resulting in brief psychotic or manic episodes (Beck and Freeman 1990). Chadwick (2014), a psychologist and author, recently shared his own experience of being diagnosed

with SZPD in a peer-reviewed journal article. He described a significant amount of time immersed in his own thoughts, thus leading to difficulties with participating in activities of daily living, as well as a lack of meaningful attachment to others. For Chadwick, the most distressing aspect of being diagnosed with SZPD is others' perceiving him as arrogant when in fact he feels a deep inner inferiority as compared to others, due to his social withdrawal. As other case examples suggest, SZPD often leaves the individual feeling misunderstood by others, which likely exacerbates the already difficult interpersonal symptoms associated with the disorder.

Extensive literature describing the clinical characteristics of the schizoid personality exists within modern psychoanalytic and psychodynamic theory. For example, McWilliams (2011) writes that schizoid individuals are extremely sensitive to interpersonal stimulation, and they retreat when they feel as though they are in danger of being engulfed by others. McWilliams was also a significant contributor to the *Psychodynamic Diagnostic Manual* (PDM 2006), which suggests that schizoid pathology operates on a continuum, from the profoundly troubled individual to the higher functioning individual. In order to cope with their intense fears of engulfment by others, schizoid individuals might isolate themselves, either by physically remaining alone or by retreating into an internal fantasy world. Consequently, schizoid individuals may appear distant and/or cold to others, yet they may also experience a deep sense of yearning for interpersonal connection. Their behavior may also appear odd or socially inappropriate to those around them. In addition, individuals with schizoid personality traits tend to be keenly aware of their internal processes, which may actually be unconscious or difficult to understand for those without schizoid pathology. Clinicians within the psychoanalytic or psychodynamic tradition suggest that individuals with schizoid personality traits tend to intensely feel their emotions, rather than simply deny the existence of emotion. Consequently, these individuals may also feel as though they must suppress their emotions, as a way to cope with affect and avoid feeling overwhelmed.

Treatment Considerations for SZPD

There are few published empirical studies that have examined the effectiveness of treatment for SZPD (Thylstrup and Hesse 2009; Treibwasser et al. 2012), or for the odd/eccentric personality disorders in general (Blom and Colijn 2012). Thus, little is known about the therapeutic interventions that could effectively target the symptoms of SZPD. Based on clinical experience, however, Thylstrup and Hesse (2009) offered several concrete treatment recommendations for working with patients diagnosed with SZPD. First, the authors suggested that, in order to effectively establish a working alliance, special attention must be given to the schizoid patient's desire for "emotional space" (p. 163). These patients may need more time to develop a sense of trust with the therapist, due to their underlying and unconscious fears of being consumed by others. Second, the authors suggested using a non-confrontational approach in the beginning stages of treatment, as doing so allows the patient to avoid feeling smothered or judged by the therapist. Third, the authors also suggested providing the patient with psychoeducation regarding schizoid personality features and how these features may impact the patient's overall functioning in the world. Fourth, the authors cautioned therapists to monitor their own responses to the patient, as the psychopathology associated with SZPD may evoke a sense of ineffectiveness in the therapist. They also encouraged the therapist to be vigilant for the development of any psychotic symptoms in their patient with SZPD, as the disorder is often associated with brief psychotic experiences, or the development of a later psychotic disorder. Thylstrup and Hesse (2009) also recommended that the schizoid patient be referred for group psychotherapy as an adjunctive treatment, so that the patient may learn to interact with others and reduce their fears of intimacy in a safe and supportive environment. It is also important to note that even individual psychotherapy allows for the development of an emotional relationship between therapist and patient that may serve as a model for subsequent fulfilling relationships outside of the context of therapy. Finally, the authors

also recommended a medication consultation with a psychiatrist to treat the patient's social anxiety in conjunction with psychotherapy.

Much of what is known about the treatment of SZPD is drawn from the modern psychoanalytic and psychodynamic literature. Hess (2016), for example, highlighted the challenges of working with the schizoid patient, including the schizoid patient's difficulty in relating to others, emotional detachment, and a lack of interest in exploring one's internal experience. Lewin (2015) noted the effectiveness of *capacity learning* as an intervention for the schizoid patient, where the therapist lends his or her belief that growth is possible to the patient implicitly, which fosters the patient's ability to eventually believe in his or her own capacity for change. In addition, it is not uncommon for individuals with SZPD to also be creative and intelligent individuals; thus, the therapist may also consider the inclusion of literature, art, and music in the treatment, in order to engender improved emotional communication in psychotherapy.

Finally, the PDM (2006) suggests that those with schizoid personality traits tend to do best in psychotherapy when there is an opportunity for emotional intimacy, accompanied by respect for the patient's need for space. McWilliams (2011) noted that the schizoid patient approaches therapy in much the same way they approach all interpersonal interactions, with an enduring fear that the other person will engulf them. As a result, the therapist may experience difficulty entering and understanding the patient's internal world. McWilliams also suggested that the therapist should find the delicate balance between curiosity about the schizoid patient's world, without causing undue fears of invasion.

Conclusion

In sum, schizoid personality disorder (SZPD) is characterized by a detachment from the social environment and emotional flatness. During the development of the *DSM-5*, there was significant debate regarding the diagnosis' validity as a distinct diagnostic construct. Proponents of the

SZPD diagnosis argued that a significant amount of clinical nuance would be lost if SZPD were to be eliminated from the diagnostic manual. Consequently, it was decided by the *DSM-5* Task Force to retain the diagnosis in the most current edition of the manual. Despite this decision, SZPD remains a poorly understood diagnosis, likely due to a lack of empirical investigation into the characteristics of the disorder, as well as a hesitation by those with the disorder to present for treatment or participate in research. Although few treatment studies exist, professionals with experience treating the disorder suggest that the therapist should honor the schizoid patient's wish for emotional space, as they have a tendency to become overstimulated during interpersonal exchanges. Doing so also allows for the development of a strong working alliance between patient and therapist. Psychoeducation as well as group psychotherapy also appear to be important aspects of the treatment of SZPD. However, more research is needed to understand and effectively treat this distressing and isolating personality disorder.

Cross-References

- ▶ [Personality Disorder](#)
- ▶ [Schizophrenia](#)

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Schizophrenia

► Psychosis

Schizophrenia and Crime

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Introduction

Kraepelin (1913) first documented the link between violent antisocial behaviors and patients with dementia praecox, or what is now known as schizophrenia. Since then, many more studies have established the association between mental illness more broadly and later violent behaviors (Hodgins 2008; Walsh et al. 2002). Building on Raine's (2015) comprehensive review of this important body of literature, this chapter will review the comorbid causes and cures to both schizophrenia and crime, by presenting the accumulating evidence on this topic from studies worldwide.

On the one hand, prospective studies of criminals – primarily homicide offenders and juvenile delinquents – have documented elevated rates of psychosis and schizophrenia-like symptoms compared with the general population (Arseneault et al. 2000; Hodgins 2008; Lewis et al. 2001; Lindqvist and Allebeck 1990; Walsh et al. 2002). In particular, Eronen et al. (1996) examined 1594 homicide offenders in England and Wales over a 3-year period and found that 5% of homicide offenders suffered from schizophrenia, 67% of those had been ill for less than 12 months, and 38% experienced intense delusional beliefs in the month before the offense. In Sweden, 20% of all individuals convicted of

homicide and attempted homicide between 1988 and 2001 ($N = 2005$) suffered from a psychotic illness, with only 10% having no diagnosis. Similarly, in Denmark, 44% of female homicide offenders and 20% of male homicide offenders were diagnosed with psychosis (Gottlieb et al. 1987). Together, these findings suggest that the two constructs are inextricably linked.

On the other hand, retrospective studies of schizophrenia patients have also documented higher rates of criminal and violent behaviors compared to the general population (Fazel and Danesh 2002; Large et al. 2009). Eronen et al. (1996) found that schizophrenia patients were on average 10 times more likely than healthy controls to commit homicides over a 12-year period with male and female patients being on average 8 times and 6.5 times more likely than healthy controls to commit homicides, respectively. In another twin study, male patients were significantly more likely than female patients to suffer from affective psychosis and to be convicted and to receive a prison sentence (Coid et al. 1993). In a recent meta-analysis of 9 studies ($N = 2545$) published between 1992 and 2010, patients with first-episode psychosis were more likely to commit an act of violence before their first contact for treatment at rates of 34.5%, 16.6%, and 0.6% for any violence, serious violence and severe violence, respectively (Large and Nielssen 2011). However, what is less well-documented is that schizophrenia patients living in the community were also 14 times more likely to be a victim of crime rather than to be a cause of one (Brekke et al. 2001), at high risk for committing suicide (Hor and Taylor 2010), and more likely to live in socially disorganized neighborhoods (Allardyce and Boydell 2006).

These studies are consistent with the findings of recent large-scale systematic review and meta-analyses, which have reported an overall medium to large effect ($d = 0.81$) for the schizophrenia and violence relationship (Brennan and Alden 2006; Fazel et al. 2009a). What is less known however, is why the schizophrenia and crime relationship exists. To address this gap, researchers have adopted a developmental perspective to understand the common risk-factors to both conditions

(outlined in the next section). It is argued that by studying the nature of why prodromal conditions such as schizophrenia-spectrum disorders/schizotypal personality are associated with anti-social/aggressive behaviors, we may be better able to understand the more severe schizophrenia-crime relationship (Wong and Raine 2018; Liu et al. 2019).

Causes: Risk Factors

Neurobiological Correlates. Gourion (2006) argued that focusing on the common developmental pathways between schizophrenia and antisocial criminal behaviors can facilitate new insights into the biological, cognitive, and clinical determinants that underlie both conditions. In particular, there is growing consensus that prefrontal dysfunctions underlying volitional intent and planning are associated with delusions/hallucinations in psychosis (Pontius 2004). The same dysfunctional prefrontal cortex is also associated with the lack of control over impulsive, violent, and aggressive behaviors observed in criminal offenders (Schug and Raine 2009; Yang and Raine 2009). However, these findings have been mixed.

Naudts and Hodgins (2005) found that comparing schizophrenia patients with and without a history of violent and aggressive behaviors, the male schizophrenia patients with a childhood history of violent and aggressive behaviors were the ones who had superior executive functions and poorer orbitofrontal functioning, fewer neurological soft signs, reduced amygdalae volumes, and more structural and white matter abnormalities of the orbitofrontal system, a region responsible for decision-making and impulse control. In another study, laminar abnormalities in sensorimotor cortices were found to be related to violent behaviors observed in *both* individuals with antisocial personality disorder and schizophrenia, even though regional cortical thinning was found only in individuals with violent antisocial personality disorder (Narayan et al. 2007).

Although the majority of studies are based on patients, one community adult study does exist

and has replicated the above findings. Lam et al. (2015) assessed the gray matter volumes of five prefrontal brain regions (superior, middle, inferior, orbitofrontal and rectal gyral) in 90 adults from the community using structural magnetic resonance imaging. They found that the orbitofrontal cortex (OFC) significantly mediated the antisocial behavior and schizotypal personality relationship, explaining 53.5% of the variance. This suggests that associated functions of the OFC which includes impulse control and inhibition, emotion processing and decision-making may contribute to the comorbidity of the schizotypal-antisocial behavior link.

Theory of mind (ToM) deficits. ToM deficits are commonly associated with patients with schizophrenia. Compared with patients with personality disorders, violent patients with schizophrenia have no ToM deficits at the first order but performed worse on second-order theory of mind tasks (Murphy 1998). Similarly, when patients with paranoid schizophrenia were divided into violent versus non-violent groups, violent patients performed worse on tasks involving empathic inferencing but performed better at inferring cognitive-mental states in others compared to nonviolent paranoid schizophrenics (Abu-Akel and Abushua'leh 2004). Conversely, a study of undergraduates demonstrated that ToM moderated the negative effect of peer victimization on the schizotypal-aggression relationship, particularly reactive aggression (Lam et al. 2016). Together these findings highlight the importance of the prefrontal cortex in the regulation of both schizophrenic-like symptoms and antisocial violent behaviors.

Childhood adversity. Childhood adversity and abuse is a widely replicated risk-factor for many disorders; however, few studies have examined its effects on both violence and psychosis (Wicks et al. 2005). In a recent prospective longitudinal study of a large Mauritian sample, Wong et al. (2018) demonstrated that children left home alone at age 3 years exhibited more psychotic symptoms and antisocial behaviors at age 17 years and schizotypal personality and criminal behaviors at age 23 years compared with children reared by siblings/relatives, and children looked after by

their parents. This finding was not accounted for by cognitive impairments but related to both parental supervision and early social environment. This is the first study to suggest an early common psychosocial denominator to the two comorbid conditions of antisocial behavior and schizotypal personality. In a separate cross-sectional study, suspicious children from the UK and Hong Kong ($N = 2498$) reported significantly more concurrent aggressive behaviors, callous-unemotional traits, and internalizing problem behaviors compared to their non-suspicious peers (Wong et al. 2014). At 6- and 12-month follow-up, the excessively suspicious children also reported more hostile attributions and experiences of negative peer victimization compared with non-suspicious controls (Wong 2015), suggesting that childhood psychosocial adversities may have both immediate and long-term effects on psychotic-like experiences and rule-breaking behaviors. There is also initial twin-study evidence to suggest that childhood paranoia is also heritable (Zhou et al. 2018).

Personality Disorder. Individuals who are violent and suffer from schizophrenia often have comorbid diagnoses of a personality disorder, with particular links with early schizophrenia-spectrum disorder. Based on psychiatric assessments of incarcerated homicide offenders, Fazel and Grann (2004) found that 54% of criminals had a personality disorder as a primary or secondary diagnosis with the largest group in the personality not otherwise specified (NOS), followed by Cluster B, Cluster A, and Cluster C. In the Danish birth cohort study, there was some evidence that controlling for personality disorder partially reduced the schizophrenia and violent crime link for both males and females, though the relationship remained significant (Brennan and Alden 2006). Putkonen et al. (2004) conducted a retrospective study assessing the lifetime prevalence rate of 90 homicide offenders and found that 51% had a comorbid personality disorder, 47% with an antisocial personality disorder, and only 25% did not have a comorbid disorder. Equally striking was the finding that all offenders who had a personality disorder also had a comorbid substance related disorder.

Substance Abuse. The prevalence rates for comorbid substance abuse in schizophrenia patients and criminals is well documented (Fleischman et al. 2014; Goethals et al. 2008; Putkonen et al. 2004). According to a review by Smith and Hucker (1994), schizophrenia patients who abuse drugs and alcohol were more likely to behave violently, and in follow-up studies, found to be 9.5 times more likely to recidivate if they were also alcohol abusers. Comparing a group of violent male schizophrenia patients with non-violent patients, Steinert et al. (1998) found that substance abusers were present in 70% of the aggressive male schizophrenia patients compared with 13% of the schizophrenia patients without a history of violence, with comparable findings replicated at 50% of younger male samples (Blanchard et al. 2000). Still other studies have reported that 34% of patients with psychosis used alcohol, 22% used alcohol and cannabis, 12% used cannabis-only, and 24% used other stimulants (Miles et al. 2003), with no real differentiation between substance type for patients with schizophrenia and patients with personality disorders (Corbett et al. 1998). Against this backdrop, a more recent systematic review has found that the risk for homicide was increased in individuals with psychosis (with and without comorbid substance abuse) compared to the general population; however, risks were comparable to individuals with substance abuse but without psychosis (Fazel et al. 2009b). This suggests that public health strategies for violence reduction should also consider intervening on substance abuse.

Cures

The literature on the cures of *both* schizophrenia and crime is scant and not surprisingly, predicated on our understanding of the risk-factors from the previous section. Despite this, some progress has been made over the last two decades and researchers are continually working towards a better understanding of the etiology of the schizophrenia and crime relationship, primarily taking an interest in biosocial non-invasive preventive interventions.

Early environmental enrichment. To date, one promising study has been shown to be successful at reducing antisocial behavior and schizotypal personality traits. Raine et al. (2015) selected 100 children to receive an early environmental enrichment program compared to 1695 controls in the Mauritius cohort study using a stratified random sampling technique. This 2-year program at age 3 years consisted of three key elements: nutrition, education, and physical exercise (see detailed description in Raine et al. 2001). Compared to controls, children from the enrichment group showed significant reductions in psychotic symptoms, conduct problems, motor difficulties, and schizotypal traits at 17 years and reduced self-reported crime (23.6% vs. 36.1%) and official crime records (3.6% vs 9.9%). Although this program was successful at reducing schizotypal personality traits not schizophrenia itself, the sustained developmental benefits may inform intervention efforts at preventing or delaying the onset of schizophrenia as schizotypal personality disorder is often seem as a prodrome stage of schizophrenia (Raine Lencz and Mednick 1995). Other non-invasive yet promising methods that have been shown to reduce antisocial aggressive behaviors in both aggressive youths and prisoners involve increasing their omega-3 intake (Meyer et al. 2015; Raine et al. 2015). It seems then that treatment for both symptoms of schizophrenia and antisocial behaviors ought to begin early in development.

Cross-References

- ▶ [Schizophrenia: A Description](#)
- ▶ [Suspiciousness](#)

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Schizophrenia: A Description

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Synonyms

[Psychosis](#); [Psychotic disorder](#)

Definition

Schizophrenia is a psychological disorder, characterized primarily by thought disturbances, such as delusional thinking, and/or perceptual disturbances, such as hallucinations, as well as social and motivational deficits (i.e., flat or blunted affect, avolition, alogia, and asociality). The thought, perception, and social/motivational disturbances characteristic of schizophrenia often result in comorbid emotional/affective symptoms (e.g., depression or anxiety) and behavioral disturbances (e.g., peculiar, risky, or pointless behaviors).

Introduction

Schizophrenia is the mental health disorder that has perhaps most intrigued the population, both professional and lay, throughout the years. This interest has led to an influx of movies and television shows that serve to perpetuate a number of negative, and ultimately untrue, stereotypes of those suffering from schizophrenia. Movies such as “The Voices” and “Me, Myself, and Irene” represent individuals suffering from schizophrenia as violent and homicidal. One study demonstrated that in movies and television shows

released between 1990 and 2010 which depict a character with schizophrenia, approximately one third of these individuals murdered another character. Given that only 6.8% of individuals who have committed homicide meet criteria for a diagnosis of schizophrenia (Large et al. 2009), the rate at which television characters with schizophrenia commit violent acts is highly exaggerated. Thus, media portrayal of schizophrenia likely plays a large role in the stigma associated with the disorder.

Schizophrenia: A Description

The DSM-5 describes schizophrenia as involving a range of cognitive, behavioral, and emotional dysfunctions associated with impaired occupational or social functioning (American Psychiatric Association 2013a). At least two of the following symptoms must be present: delusions, hallucinations, disorganized speech, grossly disorganized behavior or catatonic behavior, and negative symptoms. Schizophrenia occurs in three phases: the prodromal, active, and residual phases. The prodromal phase precedes the onset of a psychotic episode and, like the disorder itself, looks different across individuals. Individuals may experience sub-diagnostic levels of paranoia, anxiety, magical thinking, etc. (Lieberman et al. 2001). In this phase, individuals may begin to withdraw from society or use substances in an attempt to cope with increasing symptoms. The active phase follows the prodromal phase, and is characterized by the onset of acute psychotic symptoms, including hallucinations, delusions, and grossly disorganized behavior. It is at this stage when an individual may be found to be a danger to self or others and may require institutionalization in order to better manage the disorder. Finally, the residual phase is often defined by the presence of negative symptoms, including avolition (i.e., a reduced drive to pursue goal-directed behavior) and blunted affect (APA 2013).

Schizophrenia is heterogeneous in presentation. Individuals with the disorder can present with a number of constellations of symptoms, from experiencing mainly auditory hallucinations, to

predominantly experiencing delusional ideations, to experiencing mostly negative symptoms, or any combination of these presentations. Individuals also vary greatly in the severity of experienced symptoms and response to interventions. Some individuals experience the active phase only once and never require hospitalization, while others experience chronic psychosis and multiple hospitalizations. Given such heterogeneity of presentation, it is surprising that Hollywood focuses primarily on individuals experiencing visual hallucinations in conjunction with auditory hallucinations (i.e., voices) commanding them to do harm unto others.

Our conceptualization of schizophrenia has changed greatly over the years. As recently as 2013 with the release of the DSM-5, two changes in the diagnostic criteria for schizophrenia were introduced (APA 2013b). In the previous edition of the DSM (DSM-IV-TR; APA 2000), an individual was only required to meet one symptom from Criterion A, provided that symptom constituted a “bizarre delusion” or “Schneiderian first-order hallucinations” (e.g., auditory hallucination consisting of two voices holding a conversation). This caveat was removed for the DSM-5 due to the “nonspecificity of Schneiderian symptoms and poor reliability of distinguishing bizarre from non-bizarre delusions” (APA 2013). With this change, two symptoms from Criterion A are now required for a diagnosis of schizophrenia. A second change is that the DSM-5 now requires that at least one of the two or more Criterion A symptoms endorsed must be the experience of hallucinations, delusions, or grossly disorganized speech, in order for the individual to meet criteria for a diagnosis of schizophrenia. Finally, the subtypes of schizophrenia included in the DSM-IV-TR (e.g., paranoid, disorganized, catatonic) have been removed due to “their limited diagnostic stability, limited reliability, and poor validity” (APA 2013).

Researchers have attempted to account for the wide array of presentations of schizophrenia. In 1980, Tim Crow attempted to account for this heterogeneity by subtyping schizophrenia (Andreasen and Olsen 1982). Type I, or, positive schizophrenia, was theorized to be characterized

by predominantly positive symptoms of the disorder. Crow proposed that the onset of Positive Schizophrenia was acute, that individuals with this subtype of the disorder would experience “exacerbations and remissions,” and that these individuals would experience relatively normal premorbid- and remission functioning. Type II, or, negative schizophrenia, was theorized to be characterized predominantly by the experience of the negative symptoms of the disorder, including avolition, anhedonia, impoverished speech, and attentional impairments. He hypothesized that the onset of symptoms would be gradual in nature, leading to poorer premorbid functioning and a more chronic prognosis (Andreasen and Olsen 1982). Andreasen and Olsen (1982) elucidated a number of failings of this theory, including nonspecificity of symptoms, the ambiguous nature of some symptoms (e.g., is incongruity of affect a positive or negative symptom?), the categorical vs. dimensional measurement of symptoms, and the ignoring of the fact that many individuals present with both positive and negative symptoms.

Research has also attempted to clarify the etiology of schizophrenia. Some of these etiologies have been at least partially supported (e.g., genetic factors, diathesis-stress models), while others have been largely refuted. In 1948, Frieda Fromme-Reichman coined the term “schizophrenogenic mother” (Neill 1990). She believed that individuals suffering from schizophrenia experienced extreme distrust of others based upon “warp or rejection” they were exposed to during infancy, usually from the mother. This “warp or rejection” was proposed to be a result of either overprotective or rejecting mothering, and the theory was supported by a number of under-controlled case studies. This theory was widely popular in psychiatry between 1940 and 1970; however, in the 1970s, a number of controlled studies discredited the theory, demonstrating that rejection was not isolated to mothers and that rejecting mothers were not overly represented among individuals suffering from schizophrenia (Neill 1990).

Although many etiological theories have been refuted, there is no widely accepted single

etiological factor of schizophrenia, but rather it appears that a wide variety of biological, social, and environmental factors are at play in the development of the disorder (Hosak and Hosakova 2015). It has long been accepted that there is a significant genetic component to schizophrenia. Individuals who have a first-degree family member who has been diagnosed with schizophrenia have a much greater likelihood of also developing the disorder; however, many individuals who have been diagnosed with schizophrenia have no family history of the disorder. For these individuals, there is an increased emphasis on the role of environmental influences on the etiology of schizophrenia. Research has demonstrated that the two most influential environmental factors in the etiology of schizophrenia are psychosocial stress and cannabis use, and it is hypothesized that these factors may lead to the development of schizophrenia through their effect on vulnerable neural pathways (Hosak and Hosakova 2015).

Studies of genetic-environment interactions have provided some level of clarity in the development of schizophrenia. One recent study proposed that genetic factors account for up to 80% of the variance in schizophrenia, and that environmental factors are rarely, if ever, sufficient to cause the onset of the disorder alone (Hosak and Hosakova 2015). This lends support to the idea of a diathesis-stress model. A diathesis-stress model states that individuals are born with a level of genetic risk for developing a disorder, that, when combined with a sufficient level of environmental triggering, leads to the development of the disorder. In the case of schizophrenia, this may take form in an individual with a genetic vulnerability to the development of schizophrenia using cannabis, and this acute exposure to cannabis in combination with high levels of psychosocial stress serves as a catalyst for the development of the disorder.

The frontline treatment of schizophrenia involves the use of psychotropic medications referred to as antipsychotics. Antipsychotic medications come in three classes (typical, atypical, and dopamine partial agonist antipsychotics), all of which target the dopaminergic system (Miyamoto et al. 2005). There are a number of

psychosocial treatments available for the treatment of schizophrenia, such as cognitive behavioral therapy (CBT) and acceptance and commitment therapy (ACT); however, these treatments alone are not sufficient in treating acute psychosis and should be utilized as adjunctive treatments. Unfortunately, although newer generations of antipsychotics demonstrate improvements over first-generation antipsychotics in terms of both treatment effects and side effects, they still fail to adequately treat all symptoms of schizophrenia and lead to uncomfortable, and sometimes dangerous, side effects. These side effects include extreme weight gain, facial deformities, and muscular spasms.

Conclusion

Despite the level of effort placed into understanding schizophrenia, it remains one of the most stigmatized mental health disorders. There is a common yet unsupported belief in society that individuals suffering from schizophrenia are often violent and dangerous, though research has shown that they are more likely to be victims of violence than perpetrators. This belief is perpetuated by Hollywood, which has continuously misrepresented the disorder in films and television shows. Further, individuals suffering from schizophrenia are often left with the unenviable choice of forgoing medications and risking a psychotic episode and hospitalization, or taking antipsychotic medications which fail to alleviate a number of symptoms and lead to crippling side effects. Although our understanding of schizophrenia has improved drastically from the time of the schizophrenogenic mother theory, we still have much to learn in order to optimally treat these individuals.

Cross-References

- ▶ [Hallucinations](#)
- ▶ [Psychopathology](#)
- ▶ [Psychosis](#)
- ▶ [Schizothymia](#)
- ▶ [Schizotypal Personality Disorder](#)

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Schizothymia

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Definition

The schizothymia-cyclothymia dimension was proposed by Ernst Kretschmer to explain the associations among personality components characteristic of schizophrenia at one extreme of the dimension, and manic-depressive insanity at the other, as well as normal-range “schizoid” and “cycloid” expressions of personality.

Introduction

The term schizothymia, or schizothyme, derives from Ernst Kretschmer's (1921, 1936) body type psychodiagnostic scheme proposing that the schizophrenic and manic-depressive forms of psychosis are each associated with unique qualities of temperament, which are engendered by common patterns of physical constitution factors characteristic of discernable body types. Kretschmer proposed that discernable body types existed and that three particular types conveyed specific likelihood to develop particular personality patterns. The thin (leptosomatic), muscular (athleticosomatic), and obese (pyknosomatic) body types were believed to be associated with schizothymic, cyclothymic, and epileptic temperaments respectively, and therefore personality groups with characteristics congruent with those temperaments (Eysenck 1950; Kretschmer 1937; Millon et al. 2004). Furthermore, the leptosomatic/schizothymic type was considered to be especially vulnerable to develop the schizophrenia form of psychosis, and the pyknosomatic/cyclothymic type was considered to be more vulnerable to manic-depressive psychosis. Eysenck observed that Kretschmer considered the athleticosomatic/epileptic type to be unrelated to the other two, considering schizothymia and cyclothymia to constitute a bipolar dimension of personality, with schizophrenic psychosis and manic-depressive psychosis being the most extreme expressions of the two poles, and related, but nonpsychotic schizoid and cycloid personality forms in the normal range. In Cattell's (1944) Factor A, which was influenced by Kretschmer's work, the schizothymic side of the dimension comprised a range of normal to psychotic personality features characterized as antisocial, schizoid, surly, superstitious, rigid, unhappy, and dour, for example. The cyclothymic side of Factor A was characterized by terms such as outgoing, idealistic, cheerful, witty, friendly, open, adaptable, trustful, and cooperative.

Empirical Support

The proposed body types, and associated temperaments and personalities were the products of

clinical observation, but, as reported in a review by Eysenck (1950), Kretschmer and his contemporary adherents did pursue systematic study of the body type psychodiagnostic scheme. However, the methods employed, or reporting of findings, were often inadequate to support firm conclusions. The studies were typically observational, with no a priori hypotheses, often reporting differences between groups on medically relevant physiological functions, or in one case, observing large differences in percentages of body types within groups of patients diagnosed with either schizophrenic or manic-depressive psychosis (Eysenck 1950). While interesting, such findings do not lend construct validity to Kretschmer's body type psychodiagnostic scheme, as apparently, they were neither experimental nor longitudinal, and it is unlikely that the potential for investigator bias was controlled.

In the second part of his paper, Eysenck (1952) undertakes a systematic study, with a priori hypotheses central to Kretschmer's schizothymia-cyclothymia model, to test: (a) whether the functional psychoses, schizophrenia, and manic-depressive insanity were on a continuum with normal mental states, rather than qualitatively different from them; and (b) whether the proposed bipolar dimension, with normal to extreme schizothymia on one side and normal to extreme cyclothymia on the other, was a valid psychodiagnostic construct. Eysenck did not attempt to test relationships between the body types and the personality constructs. Eysenck used a variety of psychological and neuropsychological measures, such as verbal fluency, word connection (a word association test), mathematical addition, color-form matching, mirror drawing, social attitudes, memory for strings of numbers/digits, reading speed, writing speed, and others. He concluded that the functional psychoses were on a continuum with normal mental states, but with the scores of schizophrenia patients tending to fall between those of the normal and manic-depressive samples. Therefore, the dimensional nature of the normal to psychotic continuum was supported, but the proposed bipolar structure, with schizophrenia at one extreme end, manic-depressive psychosis at the other extreme, and normal

range schizoid and cycloid personality expressions in between, was not supported (Eysenck 1952).

Influence of the Concept

The literature linking psychological disorders to superficially observed body characteristics did affect the thinking of some influential personality theorists including Hans Eysenck (1950, 1952), Raymond Cattell (e.g., Cattell 1944; Cattell et al. 1955), and Theodore Millon (Millon et al. 2004). The body type psychodiagnostic model was contemporary with, and related to the genetic etiological model of psychopathology, still relatively in its infancy. Sadly, both models were used to justify and guide the actions of the eugenics movement (e.g., see Kretschmer 1937; Rees 1945), resulting in the forced sterilization of thousands of people presumed to carry psychological/psychiatric disorders genetically. Though interest in the proposed relationships between body characteristics and personality patterns began to wane in the 1950s, schizothymia as a personality construct motivated research into the 1970s (e.g., Van Kampen 1978), and the modern concept of schizotypy clearly has roots in schizothymia (Mason 2014).

Conclusion

Schizothymia and the body type psychodiagnostic theory are primarily of historical interest, as there is little empirical support for the notion that thin people are more likely to develop schizophrenia, or that obese people are more likely to develop a form of bipolar disorder. Kretschmer's body type psychodiagnostic model was becoming influential at about the same time that genetic theories positing hereditary factors as causes of psychopathology were emerging and driving research. Although the theory relating body types to characteristic forms of psychopathology was quite popular in its time, as evidenced by the literature devoted to the subject during the early 1900s, the

support found in that literature is likely inflated by preconceptions and clinician bias. Though interesting correlations may yet be observed, no modern rigorous study has indisputably established the existence of taxonic body types, beyond those defined by biological sex, much less a causal relationship where a body type at time point A predicts a psychopathology type at time point B. That said, the term cyclothymia has survived as part of the modern nomenclature referring to bipolar mood disturbance, and the term schizotypy persists to describe personality characteristics indicative of a predilection for thoughts and behaviors associated with schizophrenia spectrum disorders. Unlike the body type models, genetic etiological models have proven to be valid and useful. Unfortunately, both models were used to justify the eugenics movement and the forced sterilization of thousands of people.

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Schizotypal Personality Disorder

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Synonyms

Schizotypy

Definition

Schizotypal personality disorder (SPD) is characterized by a pattern of social and interpersonal deficits marked by acute discomfort with, and reduced capacity for, close relationships as well as by cognitive or perceptual distortions and eccentricities. Diagnostic criteria include odd beliefs or magical thinking, such as beliefs in clairvoyance or telepathy, unusual perceptual experiences, and a lack of close friends outside of first-degree relatives.

Introduction

Schizotypal personality disorder (SPD) is a mental disorder consisting of persistent social difficulty, reduced capacity for close relationships, and cognitive or perceptual distortions and eccentricities. Estimates suggest a prevalence rate of approximately 0–2% of clinical populations and 4% of the general population (American Psychiatric Association (APA) 2013). SPD may first be apparent in childhood, as evidenced by extreme social anxiety, hypersensitivity, being teased for oddness, and peculiar thoughts and language. The long-term prognosis for SPD is worse than for other personality disorders, due to significant social and occupational isolation. Although the exact nature of its relationship to schizophrenia is not fully understood, recent empirical investigations of SPD patients have shed light on several important aspects of schizophrenia spectrum and other psychotic disorders. Individuals diagnosed

with SPD often seek treatment in response to co-occurring symptoms, such as depression and anxiety, rather than due to features of their personality. These individuals are often misdiagnosed as having social anxiety disorder, dysthymia, or autism spectrum disorder (Rosell et al. 2014). Treatment studies examining psychotherapy for SPD are sparse, but many clinicians argue for longer-term psychotherapy for SPD focusing on psychoeducation and supportive interventions. This entry will provide an overview of the current diagnostic criteria for SPD as well as focus on the history of SPD in the *DSM*, review the characteristics of the disorder as well as highlight empirical evaluations of SPD, and conclude by highlighting recent debates surrounding the SPD diagnosis as well as important considerations for treatment.

Current Diagnostic Criteria for Schizotypal Personality Disorder

Schizotypal personality disorder (SPD) is defined in the current edition of the *Diagnostic and Statistical Manual of Mental Disorders – Fifth Edition (DSM-5; APA 2013)* as a mental disorder characterized by a pervasive pattern of interpersonal and perceptual deficits, including reduced capacity for close relationships, cognitive distortions, and eccentricities of behavior, usually beginning in early adulthood but first becoming apparent, in some cases, in childhood or adolescence. The indication of five or more of the following nine criteria may warrant the diagnosis of SPD: (1) ideas of reference, or the incorrect interpretation of incidents or events as having special significance to the individual (e.g., that a news headline may be intended just for them); (2) odd beliefs or magical thinking, superstition, or unusual preoccupation with paranormal phenomena, clairvoyance, telepathy, a “sixth sense,” or special powers; (3) unusual perceptual experiences, such as feeling a presence or hearing a voice murmuring their name; (4) speech that is unusual, vague, or digressive, although coherent; (5) suspiciousness and paranoid ideation; (6) restricted range of affect in social situations

which may be perceived by others as stiff, inappropriate, or odd; (7) behavior or appearance that is odd, eccentric, or peculiar; (8) lack of close friends or confidants other than first-degree relatives; and (9) excessive social anxiety that does not diminish with familiarity and tends to be associated with paranoid beliefs rather than negative judgments about the self. In addition, the diagnosis of SPD may only be warranted if these symptoms do not correspond with a concurrent schizophrenic, bipolar, depressive, or autism spectrum condition. SPD is also mentioned in the Schizophrenia Spectrum and Other Psychotic Disorders section of *DSM-5* because it is closely associated with schizophrenia and other psychotic disorders. Specifically, *DSM-5* notes that if SPD symptoms are indicated prior to the onset of schizophrenia, then the diagnosis of schizotypal personality disorder (premorbid) may be warranted (APA 2013).

In addition, individuals with SPD may be prone to transient episodes of psychosis lasting minutes to hours when under duress (APA 2013). While these episodes are usually insufficient in duration to be captured by the additional diagnosis of a brief psychotic disorder or schizophrenia, clinically significant psychotic symptoms may occur that do indeed meet criteria for brief psychotic disorder, schizophreniform disorder, delusional disorder, schizoaffective disorder, or schizophrenia. SPD can typically be distinguished from such disorders because these other psychotic disorders are characterized by periods of persistent psychotic symptoms (e.g., delusions and hallucinations), rather than the transient, relatively brief, cognitive and perceptual distortions that generally occur with SPD (e.g., odd beliefs and ideas of reference).

A Historical Overview of SPD in the DSM

Kendler (1985) describes that the origins of SPD draw heavily from the early twentieth century writing of Eugen Bleuler and Emil Kraepelin, who described schizophrenia-like symptoms in patients prior to the onset of their illness as well as in the first-degree relatives of schizophrenic

patients. Kraepelin noted mild or subclinical psychotic symptoms as precursors to the development of dementia praecox (his term for schizophrenia). He also suggested that the psychotic-like experiences in first-degree relatives could suggest an arrested form of the illness. Bleuler also observed what he called “crazy acts” in the context of otherwise normal behavior and noted that these psychotic-like experiences often preceded the development of schizophrenia. Kendler (1985) noted that these early studies examining the relatives of individuals with schizophrenia found that an eccentric or odd personality style, irritability, social isolation, aloof or cold demeanor, and suspiciousness were the most commonly shared characteristics of these individuals.

Sandor Rado introduced the term schizotypy in 1953 to describe what he called the schizophrenia phenotype, based on his clinical observations that there was a continuum of schizophrenic behavioral impairment. Rado described that the risk for developing schizophrenia was genetically driven and that this genetic vulnerability resulted in impairment ranging from mild to severe. Subsequently, Paul Meehl in 1962 argued that a single dominant gene, termed the schizogene, along with other genetic characteristics, such as introversion, anxiety, aggression, and diminished capacity for pleasure, exerts their influence on an individual during brain development, thus leading to an aberration in brain functioning that he referred to as schizotaxia. Thus, Meehl viewed schizotypy as the personality organization that resulted from schizotaxia and that conveyed the vulnerability for the development of schizophrenia. Meehl’s initial descriptions of schizotypy include many of the features eventually included in *DSM* descriptions of SPD, such as restricted affect, odd beliefs or magical thinking, and cognitive difficulties.

SPD was first introduced in the third edition of the *DSM* (*DSM-III*) and was initially conceptualized to capture the attenuated schizophrenia-like symptoms found in relatives of patients with schizophrenia. In addition, clinical observations of patients diagnosed with other personality disorders in the *DSM*, particularly borderline

personality disorder (BPD), indicated that these individuals often manifested transient, psychotic-like symptoms. Accordingly, early research on *DSM*-defined SPD focused on confirming its utility in identifying nonclinical individuals carrying the genetic vulnerability for schizophrenia or clarifying its clinical validity in comparison to BPD and other personality disorders. A detailed examination of 36 transcripts from a study of schizophrenia conducted in Denmark in 1968 provided the initial criteria for SPD in the *DSM-III*: (1) magical thinking, (2) ideas of reference, (3) social isolation, (4) recurrent illusions, (5) odd speech, (6) inadequate rapport, aloof cold, (7) suspiciousness, (8) undue social anxiety-hypersensitivity (Kendler 1985; Widiger and Frances 1985).

Prior to *DSM-III*, the features of schizotypy were captured solely by the schizoid personality disorder diagnosis. In *DSM-III*, schizoid personality disorder was subdivided into three separate diagnoses: schizotypal personality disorder, schizoid personality disorder, and avoidant personality disorder. Cognitive peculiarities (e.g., magical thinking, suspiciousness, paranoid ideation) were used to distinguish between SPD and schizoid personalities. In addition, SPD was distinguished from BPD by the emphasis on cognitive symptoms for SPD as opposed to the emphasis on affective symptoms in BPD, such as affective lability, chronic feelings of emptiness, and inappropriate or intense anger. Interestingly, both SPD and BPD were thought to refer to the boundaries of distinct spectrums of disorders; the BPD diagnosis was regarded as representing the boundary between personality and affective disorders, whereas SPD represented the boundary between personality and schizophrenic conditions (Widiger and Frances 1985).

A subsequent revision of the *DSM* (*DSM-IV*) further refined the SPD criteria by broadening the diagnosis to five (or more) of nine criteria in order to improve the reliability and validity of the diagnosis (Widiger and Frances 1985). Specific revisions were made to include more behavioral observations, such as the inclusion of odd appearance or behavior, as well as to refine certain criteria, such as specifying that excessive social

anxiety not be related to negative judgments of the self but rather due to paranoia. The criteria for SPD were not revised between *DSM-IV* and *DSM-5*.

Empirical Evaluations of SPD

Prevalence

The prevalence of SPD is estimated to be 0–2% in clinical populations and 4% in the general population (APA 2013). Findings from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), a longitudinal survey of psychopathology in US adults, suggested that rates of SPD have been found to be significantly greater among men than women (4.2% and 3.9%, respectively). The diagnosis was also found to be significantly more prevalent in Black individuals (specifically Black women), individuals in lower income brackets, and among those who were never married, divorced or separated, or who have been widowed (Pulay et al. 2009).

Etiology and Course

Evidence points to a significant genetic contribution to the development of SPD. Early studies of the genetic factors associated with SPD have shown that it is more common among the relatives of schizophrenic patients and that its symptoms have similarities with prodromal schizophrenic symptoms (Castonguay and Oltmanns 2013). The course of SPD is relatively stable, with only a small proportion of individuals ultimately developing schizophrenia or another psychotic disorder. Schizotypal personality features may be apparent first in childhood and adolescence with the characteristics of solitariness, poor relationships with peers (including being teased for their oddness), social anxiety, underachievement in school, hypersensitivity, peculiar thoughts and language, and unusual fantasies (APA 2013). The long-term prognosis for individuals with SPD has been found to be bleaker than that of other personality disorders; individuals with SPD have been found to remain socially isolated and occupationally impaired over time. It has been

speculated that this may be the case because SPD poses a greater neurobiological vulnerability and is less likely to remit due to limitations in available treatment (Castonguay and Oltmanns 2013).

Co-occurrence with Other Mental Disorders

SPD has a high co-occurrence rate with major depressive disorder, obsessive-compulsive disorder, and Tourette disorder. It is important to note that because the presence of SPD is a rule-out criterion for schizophrenia, few studies report diagnostic overlap between SPD and schizophrenia, despite the two disorders sharing many characteristic features. SPD also has a high degree of co-occurrence with schizoid PD, paranoid PD, avoidant PD, as well as BPD. The most distinctive schizotypal characteristic is the presence of cognitive-perceptual distortions (e.g., magical thinking, ideas of reference). Although individuals diagnosed with SPD may resemble those diagnosed with schizoid PD, the social deficits associated with SPD are secondary to mistrust and paranoia rather than lack of pleasure or interest in relationships as would be the case for schizoid PD. Similar to those diagnosed with paranoid PD, individuals diagnosed with SPD display suspiciousness in their behavior; however, while suspiciousness significantly influences the behavior of individuals diagnosed with paranoid PD, those diagnosed with SPD hold less conviction regarding their suspiciousness and can take in alternative information about other's motives and behaviors. Finally, psychotic-like symptoms observed in both SPD and BPD are distinguished as either transient or dissociative, respectively, and relative to BPD, psychotic symptoms are more common and unaccompanied by affective instability in SPD (Chemerinski et al. 2013).

Factor Structure of the DSM SPD Diagnosis

SPD has been shown to be a multidimensional construct. Analyses of the *DSM-IV* SPD criteria consistently reveal a three-factor solution: cognitive/perceptual (e.g., odd beliefs, perceptual disturbances, ideas of reference, and paranoia/suspiciousness), interpersonal (e.g., no close friends, social anxiety, restricted affect), and

disorganized/oddness (e.g., odd speech/thought, odd behavior, and restricted affect). Interestingly, the assignment of restricted affect to either the interpersonal or oddness factor depends on whether the assessment was performed by self-report in nonclinical populations as opposed to semi-structured interviews of SPD or personality-disordered patients, with restricted affect more often belonging on the oddness factor in clinical populations (Rosell et al. 2014). Rosell et al. (2014) also noted that a four-factor solution for the SPD diagnostic criteria was recently identified among nonpsychotic family members of schizophrenia patients (e.g., negative schizotypy, positive schizotypy, interpersonal sensitivity, and social isolation/introversion). Thus, more research is needed to explore the factor structure of the SPD diagnosis.

Characteristics of SPD

Similar to schizophrenia, SPD is characterized by positive, or psychotic-like, symptoms and negative, or deficit-like, symptoms (Siever and Davis 2004). The positive symptoms of SPD include ideas of reference, cognitive or perceptual distortions, and magical thinking. Converging factor analyses have emphasized paranoid symptoms and cognitive disorganization as well (Bergman et al. 1996; Reynolds et al. 2000). Negative symptoms in SPD consist of constricted (or inappropriate) expressions of affect and social withdrawal. Unaffected relatives of schizophrenia patients present with elevated schizotypal traits overall (Zouraraki et al. 2015). Moreover, it has been found that negative schizotypal symptoms, such as social isolation, coldness, inadequate rapport, and poor functioning, represent more characteristic presentations among biological relatives of schizophrenic individuals than positive schizotypal symptoms (Siever and Davis 2004).

Environmental Factors

Trauma, maltreatment, and other psychosocial stressors can contribute to the development of SPD. In fact, an increasing body of research has

demonstrated an association between early trauma exposure and an increased risk for adult psychotic symptoms. Specifically, childhood neglect and emotional abuse have been found to be associated with specific schizotypal symptoms, including ideas of reference, magical thinking, unusual perceptual experiences, and paranoid ideation (Berenbaum et al. 2008; Powers et al. 2011). Suboptimal parenting, including abuse and deviant parental communication, has also been reported to increase vulnerability to developing SPD (Zouraraki et al. 2015). In addition, those diagnosed with SPD have reported more experiences of physical attack in childhood than those diagnosed with other severe personality disorders (Yen et al. 2002). Moreover, pre- and perinatal factors, such as influenza exposure, low birth weight, and obstetric complications, have been associated with increased incidence of SPD (Zouraraki et al. 2015).

Cultural Considerations

Cultural considerations play an important role in the assessment and diagnosis of SPD. For example, cognitive and perceptual distortions must be evaluated within the context of an individual's cultural environment. Clinicians' lack of familiarity with particular cultural experiences and customs may lead to the overestimation of SPD; for instance, among the Black community, premonitions, communications with ancestral spirits, or perceptions of experiences of discrimination or paranoid beliefs may actually characterize cultural beliefs or genuine reality-based experience (Pulay et al. 2009). Other religious beliefs and rituals, such as voodoo, speaking in tongues, belief in the afterlife, shamanism, mind reading, sixth sense, evil eye, and magical beliefs related to health and illness may also appear to be characteristic of the SPD diagnosis to the uninformed outsider (APA 2013). It is important for clinicians to be aware of their own cultural biases and blind spots when diagnosing SPD.

Functional Impairment

Skodol et al. (2002) found that individuals diagnosed with SPD report significantly more impairment in work, social relationships, and leisure

than patients meeting criteria for other personality disorders (i.e., obsessive-compulsive personality disorder and avoidant personality disorder) as well as those with major depressive disorder. McClure et al. (2013) also noted significant functional impairments in individuals diagnosed with SPD, in that they were less likely to be living independently or to have been educated beyond a high school diploma as compared to individuals diagnosed with other severe personality disorders. Furthermore, Jahshan and Sergi (2007) found that individuals high in schizotypy were more impaired in their social, family, and academic functioning relative to a low-schizotypy comparison group.

Cognitive Deficits

Many of the cognitive impairments found in schizophrenic individuals in the domains of working memory, recognition memory, information processing, cognitive inhibition, episodic memory, and sustained attention are also present in individuals diagnosed with SPD, though to a lesser severity (Siever et al. 2002). This has been found to be the case even in direct comparison to individuals diagnosed with other personality disorders; specifically, individuals with SPD have been found to be more impaired in attentional vigilance, information processing, and other measures of executive function (Trestman et al. 1995). Individuals diagnosed with SPD also have significant working memory deficits as compared to those diagnosed with other personality disorders (Rosell et al. 2014). In addition, magnetic resonance imaging (MRI) studies have identified specific structural abnormalities in patients diagnosed with SPD that are like those associated with patients diagnosed with schizophrenia (Siever et al. 2002). For example, these abnormalities include frontotemporal white matter abnormalities, which have been found to be severe in schizophrenic groups yet intermediate in SPD patients (Lener et al. 2015). In addition, Chemerinski and colleagues (2013) reviewed relevant psychophysiological deficits relevant to SPD and found significant abnormalities in prepulse inhibition (PPI) – or the ability to inhibit reaction to or filter sensory information – to be

associated with increased vulnerability to developing SPD symptoms.

Social Difficulties

A growing body of literature has also addressed the social or interpersonal dimensions of schizotypy and SPD. Studies of social cognition and emotion recognition in samples of individuals endorsing schizotypy have yielded mixed results. Investigations of theory of mind – or the ability to attribute and differentiate between one’s own and others’ mental states, including beliefs, intentions, and desires – in schizotypy have regularly demonstrated impairments. One study of emotion recognition accuracy in individuals diagnosed with and without SPD indicated that those diagnosed with SPD displayed deficits only in recognizing positive emotions but not negative emotions (Waldeck and Miller 2000). Impaired accuracy of facial affect recognition has been found to be associated with the endorsement of social anhedonia, constricted affect, and most prominently, social anxiety (Ripoll et al. 2011). Chemerinski and colleagues (2013) have suggested that many different symptoms of SPD contribute to social deficits, including excessive social anxiety, odd speech, constricted affect, and suspiciousness.

Moreover, schizotypal personality traits have been associated with deficits in empathic accuracy, the detection of deception, appreciation of irony, and processing information about the self (Jahshan and Sergi 2007; Ripoll et al. 2013). However, Jahshan and Sergi found that improved social cognition was significantly related to greater social functioning in their sample of high-schizotypy individuals. Another study suggested that individuals diagnosed with SPD demonstrated the most impairment in behavioral measures of social skills and social appropriateness (Waldick and Miller 2000). In addition, difficulties socializing effectively, concerns about basic safety, and the tendency to become easily overwhelmed in social situations may explain the trend of adolescents with schizotypal traits relying more heavily on the internet for social interaction as compared to control subjects without personality disorder features (Chemerinski et al. 2013).

Debates Surrounding the SPD Diagnosis

One of the main debates about the SPD diagnosis is the exact nature of its relationship with schizophrenia. Appels et al. (2004), for example, posited that parents of patients with a schizophrenia diagnosis endorsed more positive and negative schizotypal traits than parents without a family history of schizophrenia spectrum disorders because of an underlying familial or genetic vulnerability to schizophrenia. Moreover, Siever and Davis (2004) reviewed data supporting their hypothesis that schizophrenic and schizotypal personalities share a common genetic anomaly or diathesis that renders specific brain regions particularly vulnerable to environmental difficulties such as hypoxia (i.e., oxygen deficiency). Siever and Davis (2004) emphasized the importance of genetic predisposition for the diagnosis of SPD and proposed that certain features of the schizotypal brain (e.g., intact cognitive functioning) may serve as mitigating or buffering factors that diminish the impact of schizophrenia susceptibility. Therefore, these researchers suggested cognitive and behavioral strategies, some of which are discussed later in this entry, that could be used to spare genetically vulnerable schizotypal individuals from the severe social and cognitive deterioration that characterizes schizophrenia.

The assumption that the incidence of familial schizophrenia should be given primacy as a validating criterion for the SPD diagnosis, however, has been challenged (e.g., Frances 1985; McClure et al. 2013). Although empirically useful to narrow the SPD diagnostic criteria to be more like those for schizophrenia (e.g., differentiating between positive and negative symptoms and distinguishing between affective conditions, as with schizoaffective disorder), altering the SPD diagnostic criteria in this way may prove less useful clinically because it would ignore the personality characteristics associated with the disorder. Moreover, Frances (1985) has argued that individuals who meet the most characteristic familial schizotypal descriptions often do not willingly present for treatment, due to paranoia and social isolation.

Treatment Considerations for SPD

While there is no single, preferred treatment model for SPD, there are several important factors to consider in treatment planning and assessment. First, effective treatment planning is contingent on an adequate diagnosis and case formulation. It is important to note that SPD often co-occurs with mood disorders and other personality disorders, so SPD features may be overshadowed by symptoms of these other conditions. In addition, given that suspiciousness is a prototypical feature of SPD, efforts should be made to establish and maintain an alliance with this population to aid in treatment retention.

Common complaints among patients with SPD include eccentric social habits, anhedonia, hypersensitivity to criticism, humorlessness, the misinterpretation of the moods and statements of others, and inability to fit in socially. Moreover, individuals with SPD often seek treatment for their co-occurring symptoms of depression or anxiety rather than specific features of their personality (APA 2013). Patients with SPD are often misdiagnosed with attention deficit disorder (ADD), social anxiety disorder, dysthymia, or an autism spectrum disorder (Rosell et al. 2014).

Pharmacological Treatment

The prescription of psychopharmacological medication can play a primary or supplementary role in the treatment of SPD. The treatment of positive symptoms such as magical thinking, ideas of reference, and suspiciousness with antipsychotic medication has been substantiated. Koenigsberg et al. (2003), for example, found that individuals with SPD randomly assigned to a risperidone treatment condition demonstrated reduced positive and negative symptoms, although this medication did not lead to significant changes in affect symptoms. Antipsychotics, stimulants, benzodiazepines, selective serotonin reuptake inhibitors (SSRIs), and neuroleptic medication may also prove helpful in addressing the mood dysregulation, social anxiety, and cognitive symptoms associated with the SPD diagnosis. McClure et al. (2013), who emphasized the cognitive

impairments associated with SPD, argued for psychopharmacological treatments geared at cognitive enhancement. For example, research has shown that pharmacological enhancement of dopamine receptor functions has led to improvements in working memory without clinical worsening in patients with psychotic symptoms. However, unlike patients diagnosed with schizophrenia, patients diagnosed with SPD are rarely treated with psychiatric agents, in part because clinical trials for SPD and SPD symptoms are so rare (Chemerinski et al. 2013).

Cognitive Treatments

McClure et al. (2013) argued that cognitive remediation-oriented therapy or skills-based training may benefit individuals with SPD. Cognitive therapy for individuals with a personality disorder diagnosis generally emphasizes improving current functioning through increasing the patient's repertoire and flexibility with compensatory strategies, developing and learning from a therapeutic relationship, understanding the historical development and maintenance of core beliefs, and modifying maladaptive beliefs to bring about enduring emotional and behavioral change through rational and experiential methods. Cognitive behavioral therapy (CBT) for psychotic disorders or for those with a high frequency of positive symptoms emphasizes the consideration of alternative explanations for various psychotic experiences (Beck 1995). Cognitive remediation or cognitive enhancement therapy is geared toward the improvement across neuropsychological domains, including information processing, working memory, attention, cognitive and social flexibility, problem solving, organization, and executive function.

Psychotherapy Studies

Empirical studies of psychotherapy methods and outcome in individuals diagnosed with SPD are sparse, perhaps due to its relatively new classification and appearance in *DSM-III* or possibly because of the infrequency with which patients who meet criteria for SPD seek psychotherapy. Moreover, because individuals with schizotypal

features are significantly less prone to overt suicidal gestures, as compared to other personality disorders, these individuals are more likely to present for treatment at outpatient clinics and private psychotherapy offices rather than to hospitals with funded research programs.

Because of the chronicity of SPD, Stone (1985) advocated for long-term psychotherapy incorporating elements of exploration, support, and social-educational measures for treatment. Group psychotherapy treatment may be less helpful for those diagnosed with SPD who are especially shy or mistrustful. Stone also argues against the use of traditional psychoanalysis for those with SPD due to the isolating nature of being analyzed “on the couch” and the associated inability of the SPD patient to attend to visual demonstrations of support and understanding from the therapist. However, he does note that those individuals diagnosed with SPD who are easily overwhelmed or distracted by gestures or sounds made by the therapist may be able to attend to auditory markers of therapeutic empathy and, therefore, may prefer to look away from the clinician. Ultimately, Stone argues for gearing treatment toward issues of identity disturbance, experiences of depersonalization, and anhedonia when working with individuals diagnosed with SPD.

McWilliams (2011) has long advocated for therapists to recognize the adaptive capacity of individuals diagnosed with both schizotypal and schizoid personality disorders. In particular, she notes that these individuals have an incredible capacity for creativity. She argues that the “sublimation of autistic withdrawal into creative activity” can be a productive goal for psychotherapy with these patients (p. 200). An additional aim may be to simply help the patient to have feelings, emotions, and experiences they were incapable of having before treatment began. Moreover, she argues that the therapeutic relationship may provide the schizotypal patient with a new experience of a safe and trusting bond, allowing for subsequent healing.

Some of the challenges faced by clinicians working with these individuals therapeutically may be difficulties or discontinuities with respect

to time and person, hypersensitivity to interpersonal cues, and the patients’ fragility. These difficulties may lead the therapist to be overly permissive or may inhibit the patient’s motivation and his or her ability to continue treatment. Due to its chronic nature, psychotherapy with individuals diagnosed with SPD may require a longer treatment course than psychotherapy with other disorders based more in affective instability (such as those with mood disorders or BPD). For these reasons, Stone (1985) advocates for clinicians to use a structured and clear therapeutic frame, increased efforts at psychoeducation, careful attention to countertransference, as well as patience, when working with individuals diagnosed with SPD.

Conclusion

In sum, schizotypal personality disorder (SPD) is characterized by persistent social difficulty, eccentricities in appearance, beliefs, and speech, and cognitive or perceptual distortions. SPD is also marked by functional impairments across cognitive, social, and work domains. SPD is a challenging condition to diagnose and treat due to its phenomenological heterogeneity and the associated interpersonal difficulties and suspiciousness. Clinicians are encouraged to consider long-term psychotherapy approaches that emphasize psychoeducation and support.

Cross-References

- ▶ [Personality Disorder](#)
- ▶ [Schizophrenia](#)
- ▶ [Schizotypal Personality Questionnaire \(SPQ\)](#)

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Schizotypal Personality Questionnaire (SPQ)

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The *Schizotypal Personality Questionnaire (SPQ)* (Raine 1991) is a commonly used self-report measure of schizotypy in healthy community samples. In recent years, the risk for schizophrenia spectrum disorders predisposed by schizotypy has received increasing attention in the literature. What is schizotypy? Is it a continuum or a categorical construct? How is it measured by the *SPQ*? Why is it important to measure schizotypy? This entry addresses these questions and reviews the major correlates of schizotypy assessed by the *SPQ*.

The SPQ Three-Factor Structure

The *Schizotypal Personality Questionnaire (SPQ)* is a 74-item self-report questionnaire originally designed for screening schizotypal personality disorder in the general community and also researching the correlates of schizotypy (Raine 1991). Modeled after *DSM-III-R* schizotypal personality disorder diagnostic criteria, the *SPQ* measures three well-replicated factors of schizotypy: cognitive-perceptual deficits, interpersonal deficits, and disorganization (Raine 1991; Venables and Raine 2015). This factor structure of the *SPQ* parallels that reported in people with schizophrenia. Raine and Benishay (1995) developed a shorter version, the *Schizotypal Personality Questionnaire-Brief (SPQ-B)*, with 22 items tapping the same three-factor schizotypy construct.

Given that the *SPQ* is initially designed for adults, a downward extension, the *SPQ-Child (SPQ-C)* modeled on the *SPQ-B* has been developed specifically for children and adolescents (Raine et al. 2011).

Comprised of yes-no statements, the *SPQ* measures the three-factor schizotypy construct that is based on all nine *DSM-IV* criteria for schizotypal personality disorder (American Psychiatric Association 1994). According to Raine (1991, 2006), the “cognitive-perceptual” dimension (positive schizotypy) refers to ideas of reference, magical thinking, unusual perceptual experiences, and paranoid ideation; the “interpersonal” dimension (negative schizotypy) describes social anxiety, lack of close friends, blunted affect, and paranoid ideation, while the “disorganized features” dimension is characterized by odd behavior and speech. Fifty-five percent of those scoring in the top 10% on the *SPQ* have schizotypal personality disorder (Raine 1991). In terms of the psychometric properties, the validity and internal reliability of the three-factor construct has been established (e.g., Raine and Benishay 1995). The *SPQ* was found to correlate at a relatively high level ($r = 0.68$) with independent clinical ratings of *DSM-III-R* schizotypal traits (Raine 1991). While the three-factor model has been widely accepted in the general population, Stefanis et al. (2004) have also provided an alternative four-factor model that includes a paranoid factor.

There are a number of advantages for studying schizotypy in ostensibly healthy samples. Firstly, it is more cost-effective to prevent than to intervene. Secondly, examining schizotypy instead of schizophrenia which is complicated by medications can help us better understand the development and etiology of schizophrenia spectrum disorders. Thirdly, the prevalence of having psychotic experiences is much higher than being diagnosed with non-affective psychotic disorder.

Cross-Cultural Validity of the SPQ

The three-factor *SPQ* has established construct validity in various samples with a diverse

demographic background. For instance, Reynolds et al. (2000) examined Mauritians comprised of Chinese, French, and individuals with Indian decent and African origin. It was found that the *SPQ* construct is independent of culture, gender, religious affiliation, psychopathology, and family adversity.

Despite the fact that gender differences have been found in terms of the *SPQ* scores (Raine 1992), the three-factor construct applies to both male and female participants (Raine et al. 2011). Moreover, the *SPQ* has also been administered to various age groups including children and adolescents (Raine et al. 2011), university students (Lam et al. 2016), and adults (Koychev et al. 2016; Raine 1991). These studies involved individuals from various countries including China (Raine et al. 2011) and the United States (Raine 1991). In sum, the three-factor schizotypy construct is applicable to both adolescent and adult community samples. Among the few studies that administered the *SPQ* to a clinical sample, Axelrod et al. (2001) examined adolescent psychiatric inpatients with the *SPQ-B* and documented satisfactory internal consistency, factor structure, and convergent validity.

Genetics

There is moderate heritability of schizotypy as measured by the *SPQ* in adolescents (Ericson et al. 2011). Specifically, as measured by the *SPQ-C*, Ericson et al. (2011) showed the heritabilities of 42–53% at age 11–13 years and 38–57% at age 14–16 years for all three *SPQ* factors. Moreover, the developmental stability across these two age groups was 0.56, and 70.5% of this stability could be explained genetically. Along the same line, the relatives of schizophrenics were shown to have elevated ratings on the cognitive-perceptual factor of the *SPQ* (Yaralian et al. 2000). Taken altogether, schizotypy as assessed by the *SPQ* is moderately heritable.

Regarding the genetic basis of schizotypy, it has been suggested to be an endophenotype for schizophrenia which has a high heritability

(66–83%) (Cardno et al. 1999) and a prevalence rate of 2% (Raine 2006). According to Barrantes-Vidal et al. (2013), positive schizotypy is associated with psychotic-like, paranoid, schizotypal, and mood symptoms, while negative schizotypy, on the other hand, is associated with negative and schizoid symptoms. Moreover, various studies found that schizotypy and schizophrenia spectrum disorders share multiple genetic, behavioral, and neurobiological correlates which give rise to the development of these disorders. For instance, Fanous et al. (2007) found that at least a subset of schizophrenia susceptibility genes overlap those of schizotypy in nonpsychotic relatives.

Neuropsychological Correlates

Neurocognition

As measured specifically by the *SPQ*, schizotypy is associated with cognitive deficits including impaired verbal fluency and negative priming (Cochrane et al. 2012), impairments in working memory (Schmechtig et al. 2013), poor recognition and naming of facial emotion expressions (Germine and Hooker 2011), deficits in attention (Chen et al. 1997), and impaired theory of mind (Deptula and Bedwell 2015). On contrast, it was suggested that general intelligence is not impaired in schizotypy (Raine 2006).

Brain Imaging

Recent research has shed more light on both the structural and functional neuroimaging domains of schizotypy. As measured by the *SPQ*, schizotypy is positively related to cortical thickness in the frontal lobe and negatively related to the volume of frontal and temporal lobes as well as the thalamus (DeRosse et al. 2015; Kühn et al. 2012). Gray matter volume (GMV) of the right dorsolateral prefrontal cortex (Kühn et al. 2012) is related to positive schizotypy, while right temporal-parietal junction (Kühn et al. 2012) and right precuneus GMV (Nenadic et al. 2015) are related to negative schizotypy. These findings suggest that schizotypy is associated with volumetric changes in the brain. However, numerous neuroimaging studies have been conducted in

schizophrenia and schizotypal personality disorder, while those pertaining to individual differences in schizotypal personality are more limited.

As to functional neuroimaging studies, neural processing patterns have been found to underlie a number of cognitive-related paradigms in schizotypy as assessed by the *SPQ*. For example, a high level of schizotypy was associated with reduced activation in the prefrontal cortex while performing a task regarding prospective memory which refers to the ability to remember to perform actions (Wang et al. 2014). Besides these activation paradigms, some recent studies have also examined the schizotypal brain at rest. For instance, one resting-state functional MRI study in young people aged 12–20 years reported positive correlations between *SPQ* scores and a visual network (involving the occipital and bilateral temporal regions) in the low-frequency range and negative correlations between the *SPQ* scores and an auditory network (the superior temporal and inferior frontal gyrus) (Lagioia et al. 2010).

Besides MRI studies, the relationship between schizotypy (measured by the *SPQ*) and brain function has also been examined by different methods including electroencephalography (EEG) and functional near-infrared spectroscopy (fNIRS) (e.g., Kim et al. 2015). For instance, an event-related potentials (ERPs) study found that the high schizotypy group related to reduced error-related negativity amplitudes performed worse than the low schizotypy group in error-monitoring (the ability to monitor one's own behavior, such as detecting errors and correcting or adjusting one's behavior to achieve the intended purposes) (Kim et al. 2015). Taken together, schizotypy is associated with various neurocognitive impairments as well as structural and functional brain abnormalities.

Intervention

Medication

Regarding the psychopharmacology of schizotypy, studies have gone beyond behavioral changes to neural changes resulting from medication. For instance, as measured by the *SPQ*,

dopamine transmission in both striatal and extra-striatal brain regions has been associated with schizotypy (Woodward et al. 2011). Similar to medicated schizophrenics, the D2/D3 receptor antagonist amisulpride (Koychev et al. 2012) and antipsychotic compounds (Schmechtig et al. 2013) have been found to be effective in improving neurocognitive functions in schizotypy. These findings suggest that the psychopharmacology reducing schizotypy is similar to that used in treating schizophrenia.

Early Environmental Enrichment and Skills Training

Besides medications, there are various types of interventions targeting schizotypy. For example, an early nutritional, education, and physical exercise enrichment program for children at ages 3–5 years was effective in reducing their schizotypy level and antisocial behavior at age 17 years (Raine et al. 2003). Furthermore, a psychosocial skill training intervention developed by Liberman and Robertson (2005) was also effective in reducing schizotypal traits and enhancing social competence in high school students at 12-month follow-up.

Conclusion

The *SPQ* is a well-validated assessment tool for measuring a three-factor schizotypy construct in healthy individuals across various demographic backgrounds. Nevertheless, a four-factor model (cognitive/perceptual, paranoid, negative, and disorganization schizotypal dimensions) is worthy of future consideration (Stefanis et al. 2004). Venables and Raine (2015) found a modest stability of the three-factor schizotypy construct ($r = 0.58$) by following up individuals from adolescence into adulthood.

Prior findings have illustrated the importance of identifying those with raised levels of schizotypy as the risk of the development of schizophrenia spectrum disorders is posed, especially during childhood and adolescence. Not only will such identification benefit the community financially, but it also helps prevent abnormal

behavior and related social dysfunction including schizotypal symptomatology and aggression which might potentially lead to future crime in society. Moreover, since schizotypy is moderately heritable and is associated with various clinical disorders (e.g., schizophrenia), neurocognitive deficits (e.g., working memory and theory of mind), as well as structural and functional brain abnormalities, future brain imaging studies could be conducted utilizing various methodologies ranging from EEG to MRI to delineate and confirm the neuropsychological and genetic underpinnings of schizotypy. More importantly, the development and evaluation of interventions targeting schizotypy is warranted in future studies.

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Schizotypy

- ▶ [Oxford-Liverpool Inventory of Feelings Experiences \(O-LIFE\)](#)
- ▶ [Psychosis](#)
- ▶ [Schizotypal Personality Disorder](#)

Schlegel, Rebecca J.

Rebecca J. Schlegel

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Rebecca Schlegel is a faculty member at Texas A&M University. She is a social-personality psychologist who conducts research on the influence of self and identity on psychological functioning.

Early Life and Educational Background

Schlegel was born on March 27, 1982 in Wichita, Kansas. She earned her B.S. in Psychology from Kansas State University in 2004 and her Ph.D. in social-personality psychology from the University of Missouri in 2009 under the direction of Ann Bettencourt and Jamie Arndt.

Professional Career

Schlegel has been a faculty member at Texas A&M University since 2009. She has authored more than 30 publications during her career which have appeared in outlets such as *Journal of Personality and Social Psychology*, *Personality and Social Psychology Bulletin*, *Personality and Social Psychology Review*, *Social Psychology and Personality Science*, and *Journal of Personality*. She has served on the editorial board *Journal of Personality and Social Psychology* and *Personality and Social Psychology Bulletin*. Her work has been funded by the National Science Foundation.

Research Interests

Schlegel's work has largely focused on the functional importance of the true self-concept in everyday life. Specifically, her work has shown that the true self serves as a hub of meaning by exporting legitimacy, importance, and value to

other aspects of life (e.g., relationships, behavior, goals, work), such that life endeavors that are concordant with the true self-concept are deemed valuable. In support of this idea, Schlegel and her colleagues have demonstrated, through a variety of methods, that being “in touch” with one’s true self predicts perceived meaning in life and decision satisfaction. These relationships are, in part, explained by a widely held “true-self-as-guide” lay theory of decision-making. Finally, Schlegel and her colleagues have explored the role that essentialist beliefs about the self-play in these processes.

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Schmader, Toni

Toni Schmader
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Toni Schmader holds a Canada Research Chair in Social Psychology at the University of British Columbia in Vancouver, Canada. She is a personality-social psychologist with expertise in social stigma, stereotyping and prejudice, and emotion and self-regulation.

Early Life and Educational Background

Schmader was born on March 31, 1972, in Lucinda, Pennsylvania, a rural town of just 2000 people. She earned her BA in Psychology at Washington and Jefferson College in 1994. After spending 1 year in the PhD program in Social Psychology at the State University of New York at Buffalo, Schmader transferred to the University of California, Santa Barbara, to complete her doctorate in 1999 under the supervision of Brenda Major. She has held visiting appointments at Harvard University and the University of Aix-Marseille.

Professional Career

Schmader joined the faculty in the Department of Psychology at the University of Arizona in 1999 and was awarded tenure in 2005. In 2009, she moved north to Canada to the University of British Columbia, in Vancouver, where she is the Director of the Social Identity Laboratory. She has published several dozen articles appearing in outlets such as *Psychological Review*, *Personality and Social Psychology Review*, *Journal of Personality and Social Psychology*, and *Psychological Science*. Her research has been continuously funded for over 15 years with grants totaling more than \$2.5 million from the *National Science Foundation*, *the National Institute of Mental Health*, and *the Social Sciences and Humanities Research Council*. Dr. Schmader has given frequent public lectures on the topic of implicit gender bias including talks to the *National Academies of Science* in the United States, as part of Harvard’s *Women in Work Series*, and at the *International Gender Summit*. She was the recipient of a Killam Research Prize in 2013. She is both a fellow and has held elected positions in the *Society for Experimental Social Psychology* and the *Society for Personality and Social Psychology*. She has also held associate editorships at the *Journal for Personality and Social Psychology* and *Personality and Social Psychology Bulletin*.

Research Interests

Social groups profoundly define who we are and how we view others. Schmader's research examines how people are affected by negatively stereotyped or tarnished identities. Her research has broadly centered around three themes: (1) How are people affected by the threat of being negatively stereotyped? (2) What role do social identities play in the domains people choose or value? and (3) What motivational function does shame serve in both personal and intergroup contexts?

On the first question, Schmader's sustained program of research on stereotype threat has uncovered an integrated series of core cognitive, affective, and motivational mechanisms that can explain why the threat of being evaluated through the lens of a negative stereotype can undermine performance. In addition to identifying key mediators and moderators of this phenomenon, termed stereotype threat, Schmader's more recent work examines how stereotype threat is experienced and reduced in interpersonal contexts, especially as applied to women working in science and technology fields.

Second, Schmader has carried out research to examine the role of group stereotypes and social stigma in determining the domains into which people self-select. This work has revealed the role of social status in creating asymmetries in what domains are valued and the role of gender stereotypes in maintaining gender segregation across different roles.

Finally, Schmader and her colleagues have examined shame as a distinct negative emotion whose social functions have often been overlooked. Their work has identified why people would feel ashamed, rather than guilty, for another person's actions. They have also isolated a unique functional role that shame might play in the motivation for self-change and image repair.

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School Refusal

► [Absenteeism](#)

Schütz, Astrid

Astrid Schütz

Department of Psychology, University of Bamberg, Bamberg, Germany

Early Life and Educational Background

Astrid Schütz was born on December 28, 1960 in Würzburg, Germany. She studied Psychology, Education, and Sociology at the University of Erlangen-Nürnberg, the University of Alabama, USA, and the University of Bamberg. In 1992, she completed her Ph.D. under the supervision of Lothar Laux. Her dissertation dealt with self-presentation in politics. She analyzed the election campaigns of Ronald Reagan and Walter Mondale

as well as the campaigns of Helmut Kohl and Johannes Rau with respect to self-presentation and identified tactics such as the “sandwich tactic” where criticism is both preceded and followed by praise. She also studied defensive tactics in political scandals on the basis of the reactions of the accused during Uwe Barschel’s “Waterkantgate” and Bill Clinton’s “Monicagate” and the typical sequences involved in defensive reactions.

Professional Career

Astrid Schütz was a postdoctoral researcher at the University of Bamberg. With a fellowship from the Alexander-von Humboldt Foundation, she was a visiting postdoc at the University of Virginia in 1992 and at Case Western Reserve University in 1998. During these visits, she conducted research with Bella DePaulo, Dianne Tice, and Roy Baumeister. She was appointed Professor of Personality Psychology and Assessment in 1999 at Chemnitz University of Technology, and in 2009 she was a visiting professor at the University of Huelva, Spain. In 2005, she was a visiting professor at the Centre for Research on Self and Identity in Southampton collaborating with Constantine Sedikides. In 2011, she was appointed Chair of Personality Psychology and Psychological Assessment at the University of Bamberg and also became Head of the Competence Center for Applied Personnel Psychology.

She has authored or co-authored over 100 peer-reviewed articles, more than 150 conference presentations, and over 90 book chapters. She has edited 10 volumes or books and authored or co-authored more than 20 books or psychometric tests. Among these are a textbook on personality psychology, a textbook on assessment and psychometric scales, and books for a general audience on self-esteem and emotional intelligence. Her publications have appeared in journals such as *Journal of Personality and Social Psychology*, *Personality and Social Psychology Bulletin*, *Journal of Personality*, *Journal of Research in Personality*, *European Journal of Personality*, and *Diagnostica*. She is an associate editor for the *Journal of Individual Differences* and

Frontiers in Psychology and is on the editorial board for *Self and Identity*.

Research Interests

Astrid Schütz’s research interests are in the realm of personality and social relationships. She has studied tactics of self-presentation in politics and suggested a taxonomy of assertive, defensive, protective, and aggressive tactics. In analyzing self-presentation on personal websites and comparing observer impressions with owner traits, she and her co-authors found that some traits, such as openness to experience, can more easily be inferred from personal websites than others such as agreeableness. In comparing ratings of the websites of people who were willing to participate in a survey and those who were not, she inferred that the people who were willing to participate in the surveys tended to be more open to experience and more agreeable than those who declined to participate.

Her research on emotional intelligence and social interaction across countries has shown that emotional intelligence is related to quality of interactions with friends as rated by respondents as well as their friends and that emotional intelligence is related to well-being in individualistic and collectivistic countries. In a study of couples, she found actor and partner effects of emotional intelligence on relationship satisfaction and commitment. The effect of emotional intelligence was mediated by perspective taking. She also found that a lack of emotional intelligence is linked with patterns of psychopathology and that high levels of EI help to detect irony. With her team, she tested the affective expectation model in a real-life context and found assimilation effects: positive expectations apparently do not spoil the experience. With respect to assessments of emotional competences, she published the German version of the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) and the Self-Reported Emotional Intelligence Scale (SREIS). With her students, she also developed and evaluated face-to-face and online training programs to increase emotion perception and emotion regulation in others.

Astrid Schütz studies self-esteem based on self-reports but also based on indirect measures. She compared the psychometric properties of indirect measures such as the NLT, IAT, STIAT, and GNAT and found that the IAT fared best with respect to psychometric properties. She analyzed discrepancies between explicit and implicit self-esteem and observed that self-esteem discrepancies were associated with dysfunctional behaviors such as defensiveness and health problems. She identified two patterns of discrepancies: fragile self-esteem (high explicit and low implicit self-esteem) and damaged self-esteem (low explicit and high implicit self-esteem). With her co-authors, she tested whether people can fake the IAT and found that it can be faked to a certain degree. With hints, faking was easier, but people still found it challenging to fake high scores. She also published the German version of the Narcissistic Personality inventory (NPI) and showed that narcissists are not more risk-seeking overall but are less affected by demand characteristics in a given context.

With her team, Astrid Schütz has also conducted applied research with several organizations. She found that transformational leadership in orchestras increased perceived performance and satisfaction through reduced task and relationship conflict. In business, she also observed leader – follower crossover with respect to health: associates of exhausted leaders reported more somatic complaints than others.

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Schwartz, Shalom

Shalom H. Schwartz

The Hebrew University of Jerusalem,
Jerusalem, Israel

National Research University-Higher School of
Economics, Moscow, Russia

left Michigan one year into his dissertation, leaving him on his own to develop as an independent scholar. His dissertation, *Moral Decision-making and Behavior*, asked whether people's internalized norms actually had any impact on their behavior, a highly unpopular view among psychologists at the time, though widely believed by laypeople.

Early Life and Educational Background

Shalom H. Schwartz was born in Hempstead, N.Y., on New Year's Day in 1936, 2 h too late for his parents to benefit from a tax deduction. He attended public school for 6 years, where he was called by various versions of his middle name, Hillel. Finally, when he transferred to a yeshiva in Jamaica, Queens, for 2 years, he reassumed his first name. He then attended and graduated from Hempstead High School. At the same time, he commuted twice a week to Manhattan to continue his Hebraic and Jewish studies at the Jewish Theological Seminary (JTS). As an undergraduate at Columbia College, he specialized in comparative literature. He found the introductory course in psychology (100% behaviorist, training a rat) so unstimulating that he refrained from taking another psychology course until graduate school. While earning his AB at Columbia, he completed a BA in Hebrew Literature and Language at JTS. In his senior year, he spent a semester in Jerusalem, the beginning of his attraction to living in Israel.

Following 5 years of rabbinic studies at JTS, one of them in Jerusalem with his wife, Schwartz decided to study social psychology. A course with Goodwin Watson at Columbia Teachers College excited his interest in the field. Thinking he would specialize in group dynamics, he applied to the University of Michigan in Ann Arbor. He completed a PhD in social psychology in the joint program of the psychology and sociology departments, without taking a single group dynamics course. His cross-disciplinary training is reflected in much of his research, which lies on the boundary between the two fields. His first advisor (Daniel Miller)

Professional Career

In 1967, Schwartz began his career in the sociology department at the University of Wisconsin-Madison. The social psychology group there would have been at home in any psychology department. The work ethic, collegial support, and wintry weather of Madison helped him to focus on research for the next twelve years. He spent two of those years (1971–1973) in the psychology department of the Hebrew University in Jerusalem on sabbatical and leave. Two of his colleagues there, Amos Tversky and Daniel Kahneman, tempted him to join the department, but Schwartz returned to Madison with his family to deliberate carefully about this big move. Eventually, the pull of Jerusalem and the desire to raise his children there prevailed. In 1979, Schwartz joined the psychology department at the Hebrew University. He remained at the University until retiring in 2003, serving in a variety of administrative posts in addition to teaching and research. Especially important to him was the give and take among a wonderful cadre of doctoral students. He takes special pleasure in seeing the generation of their students contributing to the burgeoning field of value studies.

The move to Israel, with its great cultural diversity but circumscribed academic contacts, encouraged Schwartz to travel widely and piqued his interest in cross-cultural psychology. He became involved with the International Association for Cross-Cultural Psychology, joining the executive council in 1994 and being elected president in 2004. Since retiring, he has spent part-time as a research professor at the University of Bergen in Norway (2007–2009)

and as the scientific supervisor of the international laboratory of sociocultural research at the National Research University–Higher School of Economics in Moscow (2011–2016). In 2007, he received the Israel prize, the highest civilian prize awarded to researchers by the State of Israel. In 2014, he received a distinguished Career Award from the American Sociological Association. For 19 years, Schwartz was a member of the European Social Survey (ESS) scientific board. He authored its Human Values Scale, part of its semiannual surveys of representative samples across Europe. He is on the editorial boards of five international journals. He has written or edited nine books and published over 230 articles in international journals in social, cross-cultural and developmental psychology, sociology, political science, education, management, law, and economics.

Schwartz moved back to the USA in 2017 to be near his children. The internet, with occasional glitches, has made it possible to continue his research and collaboration with researchers around the world. A constant supply of fresh data from ten of thousands of respondents to the ESS provides resources to keep him busy addressing new questions about values.

Research Interests

Schwartz's first studies were laboratory experiments on aspects of bystander behavior. These included investigations of personality variables as moderators, intervention in the face of crime, and the impact of participation in bystander experiments on people's subsequent real life responses to emergencies. He conducted some of these at the Hebrew University where he was on sabbatical and leave for 2 years ("crime in Jerusalem"). Next came a series of studies of helping behavior, mainly field experiments examining interactions between situational and personality variables as determinants of such things as blood donation and willingness to donate a kidney. These two lines of research led him to develop a theory of normative influences on altruism. In it, he argued that people generate personal norms in the decision-situation.

This raised the question: what is the stable internal source from which people generate these norms? And so began the study of basic values that has occupied him since. Building on the work of Milton Rokeach and applying statistical methods of Louis Guttman, which he learned from his own students, Schwartz developed his theory of the basic personal values recognized across cultures. He then turned to 18 researchers in different countries to gather data with the first instrument to operationalize the theory. Great was his surprise when all 18 agreed to collaborate and actually provided data. He and other researchers have subsequently developed five different methods for measuring values that have validated a circular motivational structure consisting of compatible and conflicting values.

Building on his theory, Schwartz has coordinated an international project applying the theory and his measurement instruments in over 80 countries, with the participation of some 150 collaborators. His individual-level research includes studies of altruism; intergroup contact; individual values as determinants of political orientations and voting; values as bases of emotions; subjective well-being; prosocial behavior; the development of values in young children; value transmission in families; values as the motivational bases of everyday behavior; differences among ethnic, gender, and religious groups; and value measurement. He recently introduced a refinement of his theory of individual values intended to improve understanding of attitudes and behavior. In a related line of research, he has developed and validated a theory of cultural value orientations useful for comparing societies. He has investigated the origins of these orientations and their consequences for societal functioning and policy.

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SCL-90-R

► Symptom Checklist-90-Revised

Scorn

► Contempt

Scripts

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Synonyms

Schemas; Stereotypes

Definition

Used as a mental shortcut, scripts are a set of expected events for a particular situation. Scripts are developed by taking information from past experiences to inform future thoughts and behaviors. The types of scripts internalized by each individual are influenced by personality differences and group affiliation, which, in turn, have an impact on the types of scripts that are formed.

Introduction

Exposed to a world filled with complex stimuli, even the extraordinary human brain can have difficulty processing the information it is faced with.

The mental demands of the environment can often be quite taxing, which is why humans have evolved the ability to use cognitive shortcuts, such as *scripts* or *schemas*. Although exact conditions may differ from time to time, many events in day-to-day life tend to follow a type of pattern, such as dining at a restaurant or going on a date. For example, Joe, who has been matched with Ann on a dating website, feels that he always has to be the first to initiate conversation and must be the one to ask Ann out on a date. Because of this dating script, he may fail to comprehend or even recognize when Ann asks him out to dinner instead. For others of course, the script for initiating a date need not be quite as rigid. In Ann's mind, it is perfectly natural for women to be the one to initiate a relationship. Moreover, just as tapping below the knee triggers a knee-jerk response, certain stimuli can trigger particular thoughts and actions. However, unlike the knee-jerk response, individual responses to stimuli can often be quite different, as in the case of Joe and Ann. Despite its label as a shortcut, scripts are often quite complex, eliciting a wide array of cognitive and behavioral responses for a variety of situations.

A History of Scripts

Toward the tail end of his career, psychologist Silvan Tomkins began to feel dissatisfied with the dominant personality theories of the time. In particular, he felt that the behaviorist approach to personality was too one-dimensional; behaviors were more complex than just the basic stimulus-response (Tomkins 1995). Tomkins felt that the behaviorist approach failed to take into account the rich affective experience of the individual – future actions are often informed by emotional responses to past experiences. As a result of his dissatisfaction, Tomkins created what is now known as script theory. According to the script theory, the basic unit of an experience is called a *scene*, which consists of a stimulus-affect-response. Essentially, when someone is exposed to a stimulus, it naturally elicits some form of emotional reaction, which then leads to a behavioral response. As part of his theory, scripts were defined as multiple similar scenes packed

together, along with the emergent patterns and rules from these scenes. For example, going back to Ann and Joe, the dinner date script would involve several different types of scenes. Following the stimulus-affect-response format, a typical scene might look something like this: a polite and friendly waiter (stimulus) leads to Ann and Joe having a pleasant evening (affect), which leads to Ann leaving the waiter a sizeable tip (response). Naturally, over the course of the evening, Ann and Joe's interactions with each other also result in scenes, such as offering a kiss, feeling joyful, and then promising a second date. Together, scenes like these end up comprising the dinner date script, which Ann and Joe can use on future dates. By using the same script in similar situations, they can react to events with the greatest possible efficiency, to achieve the best possible result.

General Features of Scripts

By definition, scripts are a set of rules that are used to describe, evaluate, and predict scenes (Tomkins 1995). Interestingly though, not all scenes are deemed important enough for people to remember and thereby order into scripts. Taking this into account, scripts are likely to be incomplete – either due to the aforementioned transience of certain scenes or due to an overall lack of information. Information can come from a variety of sources, which can include language, sensory input, memory, and cultural influences. Scripts are shaped by individual thought processes and life experiences, which means that they can be modified, expanded, or simply confirmed over the course of a lifetime. Most often, people have a tendency to engage in confirmation bias, leading them to only seek out or accept knowledge that validates their scripts. As a result, scripts may not always be accurate. For example, someone can have a script for talking to a Canadian person which involves discussing maple syrup and hockey. While this may indeed be accurate in some cases, this script would definitely not apply to all Canadians. When it comes to social situations, scripts play a vital role in determining how interactions unfold.

Social Scripts

According to several behavioral theorists, human social behavior is determined by a set of rules (e.g., Argyle and Henderson 1984), which can be defined as a script. Evidently, different social relationships and interactions require various types of scripts. For example, exchange relationship scripts (like the ones used between coworkers or service providers and their customers) stipulate that there must be an equal trade of benefits, whereas communal relationship scripts (like the ones used between family members, friends, or romantic partners) seek an equality of affect (Clark and Mills 1979). More generally, there are also different scripts for romantic relationships and friendships (Argyle and Henderson 1984). Long-term romantic relationships can be defined by more than just internal unspoken scripts; marriage can involve legal rites, owning shared property, and the expectation of children. Although friendship scripts are likely more informal, they can still incorporate a great deal of rules, including things such as sharing news of success, showing emotional support, volunteering help when needed, and striving to make the other person happy.

Outside of dyadic relationships, scripts can also impact group behaviors. Stereotyping, which is a specific form of script activation, describes the assignment of a set of traits or characteristics to a particular group (Ashmore and Del Boca 1981). Thinking back to the Canadian example, people may stereotype Canadians as being extremely polite, earnest about hockey, and enamored by beavers. While this might sound benign and even humorous, stereotyping can actually be quite harmful. Stereotyped individuals can feel boxed in by expectations and deindividualized by others. Those who do not adhere to the expected profile may be degraded and ignored, even by members of their own group (Marques and Paez 1994). Unfortunately, prejudice and discrimination are common outcomes of stereotyping, as evidenced by recent racial tensions in the United States against non-White immigrants (Woodson 2017).

It is important to note that on top of being applied to other people, this type of script activation can also be applied to the self. When people begin to self-identify with a group, they no longer

perceive themselves as being unique and different. The behavioral scripts they adopt are those of the group's – conforming to group goals, characteristics, and beliefs. One particularly well-known theory refers to these types of social scripts as *relational schemas* (Baldwin 1992). Relational schemas are defined as internalized relationship constructs that arise from regular patterns of interaction. For example, a child who consistently cleans their room and receives parental praise for doing so can develop a script that suggests diligence = approval. As a result of this script, the child will also think of herself as being diligent and her parents as being supportive. The internal scripts that each person adopts can be incredibly powerful, capable of influencing both group affiliation and individual personality.

The Relationship between Scripts and Personality/Individual Differences

Based on current research, the exact relationship between scripts and personality appears to be a rather contentious source of debate. In one theory, scripts have been proposed as an alternative to traits as the primary unit of personality (Thorne 1995). For situations that are more multifaceted, trait theory may be too simple to capture the dynamics of the event. By examining the interplay between two or more different scripts, researchers can better understand the intricacies of personality. For example, a person might have the conflicting traits of being both extraverted and anxious-avoidantly attached. In this situation, trait theory would fail to tell us how this person would react to other people – would they seek out interaction with others? Or would they shy away from interaction instead? Using script theory, we can examine the relationship between these two traits and come to the conclusion that although this person has a script for approaching others due to their extraversion, they also have a script for expecting relationships to fail due to their anxious-avoidant attachment style.

Interestingly though, other researchers suggest that scripts are simply correlated with traits; there appears to be a systematic relationship between individual differences in scripts and individual

differences in traits from the Five-Factor Model (Demorest et al. 2012). For example, participants who scored highly on the trait of Agreeableness also reported having the script of Affiliation-Joy (meaning that experiencing affiliation with others elicited feelings of joy), but not the Fun-Joy script or the Affiliation-Love script. Clearly, possessing certain traits also leads to the development of certain types of scripts. Last but not least, it has also been suggested that individual differences in personality are linked to the creation and understanding of scripts (Neuberg and Newsom 1993). In the aforementioned paper, the researchers suggest that individual differences in the Personal Need for Structure (PNS) influence the desire to organize information into scripts – those scoring higher in PNS tend to structure information more strictly and stereotype others more. Although the nature of the connection between scripts and personality may be difficult to pinpoint, there can be no doubt that such a connection truly exists.

Conclusion

Formed from the experiences of past events, scripts are cognitive tools that aid information processing. Once internalized, scripts can influence how people perceive themselves and how they are perceived by others. However, personality can also determine the types of scripts people develop, which can in turn affect others' beliefs about their personality. In time, these beliefs can become part of the self, once again influencing future behavior and script development. In a group context, people can adopt the scripts that encompass the characteristics of the group for the purpose of assimilation. Likewise, the enactment of group scripts can also inform others of group affiliation. Although scripts can be highly useful as cognitive shortcuts, they can also be problematic if taken too far, as is the case in racial profiling. Overall, it is important to remember that although scripts can be used across similar situations, they cannot always be used for people, regardless of how similar they may seem. Every individual is unique, and scripts cannot explain everything, which is something that we should always keep in mind.

Cross-References

- ▶ [Gender Roles](#)
- ▶ [Gender Schemas](#)
- ▶ [Social Roles](#)
- ▶ [Stereotyping](#)

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SCS

- ▶ [Self-Concealment Scale](#)
- ▶ [Self-Consciousness Scale](#)

SCT

- ▶ [Washington University Sentence Completion Test](#)

SDO

- ▶ [Social Dominance Orientation and Social Dominance Theory](#)

Search for the Sacred

- ▶ [Spirituality](#)

Secondary Control Coping

- ▶ [Active Coping Strategies](#)

Secondary Drive

- ▶ [Sentiment \(Cattell\)](#)

Secondary Process

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Synonyms

[Ego](#); [Preconscious/conscious](#); [Rational thought](#); [Reality principle](#)

Definition

Secondary process thought is a developmentally advanced form of thinking based on logic and operating in accordance with the reality principle. It is responsible for accruing knowledge and making conscious decisions.

Introduction

Freud proposed secondary process as resulting from the individual's efforts to adapt to reality and function as mature adults capable of sublimating desires into socially appropriate actions. The concept of secondary process was not well defined by Freud and subsequent writers, making it more controversial and less supported than primary process thought.

Freudian Secondary Process

Within Freud's topographic model, secondary process characterizes the preconscious and conscious experiences of the mind. In contrast to the mode of thinking typical in dreams, he associated secondary process with waking thought, attention, judgment, and controlled action. It concerns itself with the actual content of ideas to make logical connections, ignoring the emotional intensity related to them. Whereas primary process thinking dominates in childhood, secondary process dominates adulthood though, when active cognitive control is impaired temporarily (as in sleep) or more pervasively (as in psychosis) and primary process mechanisms emerge by means of regression (Freud 1900/1953). In his later economic-dynamic model, he conceptualized secondary process as dominated by mental energy that is bound, or restrained, from freely seeking pleasure, so to allow time for mental experiments to test possible paths leading to satisfaction. Therefore, secondary process operates in service of the reality principle by seeking to match the mental image of an object with something in the real world, thereby delaying wish fulfillment until that object can be found (Freud 1911/1958). Similarly, secondary process is associated with the ego, which serves the function of translating the id's wishes, experienced in the form of images, into contact with actual objects. The ego, and by association secondary process, exercises a regulatory function by inhibiting the id or primary process allowing for the type of delayed gratification considered the hallmark of mature adulthood (Freud 1923/1962).

Empirical Support for Secondary Process Thought

While more efforts have been made to research primary process thought, the GEOCAT (Brakel et al. 2000) assesses both primary process (attributional) and secondary process (relational) thinking by judging the similarity of geometric figures. Relational cognition concerns logical and abstract relationships between stimuli, rather than perceptual resemblance and impressions, and takes the total configuration of the components into account. Using the GEOCAT, secondary process has been found to develop by age 7 and consistently remain the predominant mode of thinking throughout life. Secondary process is more commonly used when participants are presented material supraliminally and in periods of relative psychic calm (low anxiety) (see Vanheule et al. 2011 for a summary of research using the GEOCAT). Findings supporting the existence of two cortical systems, one superordinate system that inhibits another freely mobile system, suggests possible neural correlates to the secondary and primary process, respectively (Carhart-Harris and Friston 2010).

Linguistics and the Secondary Process

Secondary process thinking makes logical and conceptual connections between words, while primary process thinking is associative and builds on the similarity between word sounds (Shevrin and Fisher 1967). Connections have been made between linguistics and the language of dreams such that dreams or fantasy images, like word sounds, are associated with primary process, while the structure of dreams, like the structure of sentences, results from secondary process (Edelson 1972).

Controversies and Revisions of Secondary Process Thought

Freud wrote more extensively on primary process than secondary process and has been criticized for

taking as fact that secondary process, or conscious thought, was so well understood that he could merely allude to it with confidence (Holt 1989). Due to Freud's conceptualization of secondary process as running parallel to and excluding primary process, it cannot translate to the current understanding of an executive functioning capacity that coordinates multiple mental functions, including primary process thought (Holt 1989). As such, it is unclear what function secondary process serves. Some argue that primary and secondary processes are interrelated and use each other as means of generating complex mental phenomena. For instance, primary process is associated with affects, while secondary process is associated with concepts. During language acquisition the preverbal, primary process mode of thought becomes embedded in the world of concepts, represented by secondary process. As a result, there is a dialectical relationship between affective and conceptual thought such that primary process manifests as the emotional aspect of thought, informing conscious decision-making. Dreams, art, jokes, and pathological states always employ primary process thinking in the context of formerly acquired secondary process structures (Soldt 2006). Mature cognitive functioning in any area requires a balance between primary and secondary process operations (Noy 1979). For instance, while primary process has been linked to creativity, secondary process must exert integrative control over primary process manifestations in order to allow an individual to execute creative ideas in reality (Suler 1980). From these perspectives, primary process and secondary process thought inform each other to give conceptual and emotional meaning to cognition and communicate nonverbal material in a way that can be understood by others.

Conclusion

Freud's concept of secondary process as a more mature and reality-based system running parallel to primary process has been criticized for being poorly defined and in light of current

understanding of the brain's executive function role of coordinating mental activity, including brain functions akin to primary process. However, empirical studies have found support for related concepts such as relational cognition which develops by age 7 and remains the dominant mode of cognition throughout life (Brakel and Shevrin 2003) and a superordinate cortical system that restrains a more freely moving cortical system (Carhart-Harris and Friston 2010). As such, primary and secondary process may be interrelated means of generating complex mental phenomena that integrate both affective and conceptual understanding such as humor, art, and the creative process.

Cross-References

- ▶ Ego
- ▶ Preconscious/Conscious
- ▶ Reality Principle

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Sedikides, Constantine

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Early Life and Educational Background

Constantine Sedikides was born on September 24, 1958 in Katerini, Greece. He completed his Bachelor's degree in 1982 at Aristotle University of Thessaloniki, Greece, majoring in psychology and philosophy. He received a Master's degree in developmental psychology in 1984 from Fordham University, USA. He went on to gain a Master's (1986) and a PhD (1988) degree in social psychology from The Ohio State University, USA, under the supervision of Thomas M. Ostrom. His master's thesis examined status differences in intergroup perception, whereas his PhD thesis addressed construct accessibility effects in communication settings.

Professional Career

Constantine Sedikides served as an Assistant Professor at University of Wisconsin – Madison, USA, between 1988 and 1993. He moved on to University of North Carolina at Chapel Hill, USA, in 1993 as an Associate Professor and was

promoted to Full Professor in 1997. In 1999, he relocated in England, to become the Director of the Center for Research on Self and Identity at University of Southampton, where he remains until present. He has approximately 400 publications, including 15 edited volumes. His publications have appeared in such outlets as *European Journal of Personality*, *Journal of Personality*, *Journal of Personality and Social Psychology*, *Journal of Research in Personality*, and *Social Psychological and Personality Science*. He has been a co-editor of *Psychological Inquiry* and has served on the panel of several funding bodies. His research has been supported by grants from the British Academy, Economic and Social Research Council, National Institute of Health, The Leverhulme Trust, and Templeton Foundation (among others). He has received many awards, such as *Award for Distinguished Contribution to Social Psychology* (The British Psychological Society, 2018), *Distinguished Lifetime Career Award* (International Society for Self and Identity, 2017), *The Presidents' Award for Distinguished Contributions to Psychological Knowledge* (The British Psychological Society, 2012), and *Kurt Lewin Medal for Outstanding Scientific Contribution* (European Association of Social Psychology, 2011).

Research Interests

Constantine Sedikides' research is on self and identity (including narcissism) and their interplay with emotion and motivation, close relationships, and group or organizational processes. For example, one research program has addressed the determinants, consequences, and personality correlates (e.g., narcissism) of self-enhancement, the proclivity to hold an unduly positive image of one's self. Another research program has examined the triggers, functions, and personality correlates of the emotion of nostalgia, a sentimental longing about one's past. Finally, a third research program has looked into the situational instigators, health outcomes, and personality correlates, of state authenticity, the perception of one's self as true or real.

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Seeing Visions

► Hallucinations

Sefcek, Jon A.

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Jon A. Sefcek is a faculty member at Kent State University at Ashtabula, a small regional campus an hour east of Cleveland. He is an evolutionary-personality psychologist who conducts research in relation to (1) human life-history strategy, (2) human mate choice, and (3) comparative psychology with a focus on primates

Early Life and Educational Background

Sefcek was born on July 9, 1974, in Lakewood, Ohio. Originally, he went to college at the University of Florida with the intent on working toward a degree in economics. However, after 2 years down this path, he realized his educational interests lied elsewhere and moved to Cincinnati, OH, to complete his B.A. in psychology and biology, which he completed in 1998. During this time, he worked at the Cincinnati Zoo at a variety of tasks ranging from raising penguins and other birds to working with walrus, bonobos, and other primates. Given these diverse experiences, he became interested in the emerging approach of

evolutionary psychology; especially as it related to comparative research. He then went on to earn his M.A. and Ph.D. at the University of Arizona in 2002 and 2007 under the guidance of Drs James King, Aurelio Jose Figueredo, and W. Jake Jacobs.

Professional Career

While in graduate school, Sefcek worked as an adjunct instructor at The University of Arizona South, teaching courses on evolutionary psychology and abnormal psychology. Sefcek then taught as a visiting professor at Miami University (2007–2008) and Hamilton College (2009–2010), with a year in between working as an adjunct instructor at Pima Community College and Research Associate at the University of Arizona. Since 2010, Sefcek has been in the Department of Psychological Sciences at Kent State University at Ashtabula. He has published work in a variety of journals such as *Personality and Individual Differences*, *Evolutionary Behavioral Sciences*, the *American Journal of Primatology*, and *Biodemography and Social Biology*.

Research Interests

Sefcek's primary research interests are in three interrelated areas: (1) life-history strategy, (2) mate choice as it relates to individual differences and fitness indicator theory (e.g., life-history strategy, personality, intelligence, Machiavellianism, psychopathy, physical and psychological health), and (3) comparative psychology as it relates to individual differences. Although seemingly disparate, an overarching evolutionary framework connects these topics in an integrated manner. Life-history strategies relate to the manner in which organisms channel limited bioenergetics and physical resources toward survival and reproduction. As such, Sefcek's research has examined ways in which individual differences in these strategies may be measured via self-reports, validated using psychometric methods, and applied to other theoretically related individual

difference traits (e.g., physical and psychological health). Further, it allows an exploration of predictive nature of these strategies in relation to mate-choice criteria, such as the personality traits found attractive in potential mates as a function of and an overarching life-history strategy. Finally, through the application of comparative methods, some of his research examines the similarity and dissimilarity in individual difference traits between humans and other closely related species, such as chimpanzees. This later interest stems from his work as a graduate student in which he worked with the Jane Goodall Institute's ChimpanZoo Program in which he examined personality, psychopathology, and facial symmetry in zoo chimpanzees.

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Segal, Nancy L.

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Synonyms

Dizygotic (DZ); Environment; Fraternal twins; Genetics; Identical twins; Monozygotic (MZ)

Definition

Twin research offers powerful tools for investigating the factors affecting individual differences in personality development.

Introduction

Dr. Nancy L. Segal is a professor of developmental psychology at California State University, Fullerton (CSUF). She is also the founder and director of the Twin Studies Center, a unit in the Department of Psychology dedicated to promoting psychological twin research and disseminating information to interested colleagues and the public. Prior to her appointment at CSUF, Dr. Segal was associated with the famous Minnesota Study of Twins Reared Apart (MISTRA), at the University of Minnesota. Her twin research on personality and individual differences, conducted with MISTRA colleagues and others, has found genetic influences on the majority of measured personality traits. She has also studied personality similarity in a unique group, namely, doppelgängers or pairs of genetically unrelated individuals who look very much alike.

Personal Background

Dr. Nancy L. Segal was born in Boston, Massachusetts, to parents Alfred M. and Esther R. Segal. Her father was an attorney for the Veterans Administration, and her mother was a dental assistant. Shortly after the birth of their children, the family moved to Philadelphia, Pennsylvania, for several years before settling in New York City when Dr. Segal turned five. Her only sibling is a fraternal twin sister, Anne, a lawyer. Dr. Segal's interest in twin studies is grounded in her having a nonidentical twin – she was continually intrigued by the striking behavioral and physical differences she observed between her sister and herself, causing her to pose questions as to how genetic and environmental influences shape human characteristics.

Educational History

Dr. Segal's early education took place at Public School 24 and Junior High School 141 in Riverdale, a northern neighborhood in New York City's borough of the Bronx. She went on to attend the prestigious Bronx High School of Science for which admission is highly competitive. She attended college at Boston University where she majored in both psychology and English literature. Her undergraduate thesis – an analysis of the influence of the work of psychologist and philosopher William James on the literature of writer Gertrude Stein – combined her interests in these areas. However, it was an assignment in a senior-level abnormal psychology class that identified twin studies as the area in which Dr. Segal was to make her career. Asked to prepare an essay on personal adjustment, she described the psychological discomfort she experienced following her forced kindergarten separation from her twin sister (assignment to different classes) by administrators at the school they attended in Philadelphia. While preparing this class assignment, she found the relevant literature and research findings on twins both professionally engaging and personally meaningful, establishing her career path early on.

Upon graduating from Boston University, Dr. Segal completed a Divisional Master's Degree in Social Sciences at the University of Chicago, in 1974. Her M.A. thesis was an extensive overview of the methods, findings, and implications of twin studies. During the summer 1974, she served as a research assistant to the late Dr. David Rosenthal at the National Institutes of Health, processing follow-up data on the landmark case study of the Genain quadruplets. This multiple birth set included four genetically identical sisters all diagnosed with schizophrenia, albeit to different degrees of severity (Rosenthal 1963).

Dr. Segal went on to complete her Ph.D. degree in 1982, also at the University of Chicago, in the Committee on Human Development. Under the mentorship of the late Dr. Daniel G. Freedman, she developed interests at the juncture of twin research, behavioral genetics, and evolutionary

psychology. Her doctoral dissertation, titled *Cooperation, Competition and Altruism Within Twin Sets: A Reappraisal*, showed that identical or monozygotic (MZ) twins work together more cooperatively, relative to fraternal or dizygotic (DZ) twins, a finding she attributed to their greater genetic commonality. Several published papers resulted from that work; see Segal (1984a, b, 1985, 1989, 2002) and Segal and Russell (1991).

Dr. Segal's 9 years as a graduate student took her across the country and around the world. She was a visiting student at Indiana University in Bloomington, Indiana, in the spring 1975, working on twin studies with Drs. Richard J. Rose and Walter E. Nance. This opportunity was made available through the Committee on Institutional Cooperation. In the summer 1975, Dr. Segal participated in an NIMH-sponsored program at the University of Colorado's Institute for Behavioral Genetics that provided intense training in behavioral genetic research for interested and qualified students. After returning to the University of Chicago in 1975–1976, she spent the 1976–1977 academic year as a Lady Davis Fellow at the Hebrew University in Jerusalem, Israel.

Professional History

Upon graduating from the University of Chicago in 1982, Dr. Segal accepted a three-year postdoctoral fellowship at the University of Minnesota. During this time she was closely associated with the Minnesota Study of Twins Reared Apart (MISTRA), directed by Professor Thomas J. Bouchard, Jr. This fellowship was followed by a six-year appointment as Research Associate and Assistant Director of the Minnesota Center for Twin and Adoption Research, enabling her to continue her research on the reared-apart twins. Years later, Dr. Segal authored a comprehensive history of that project which took place between 1979 and 1999 (Segal 2012).

Dr. Segal joined the CSUF psychology department faculty in 1991 and received tenure and jump promotion to Full Professor in 1994. One of her first tasks was establishing the *Twin Studies*

Center: This center, housed within the Department of Psychology, supports student and faculty research using twins and adoptees. It also provides information and assistance to interested professionals and nonprofessionals. In 1995 and 1999, the center received original data and films from Dr. Daniel G. Freedman's landmark study of infant twins, a gift made available to the center through University Advancement. In 2006 the Twin Studies Center was expanded to include additional office space and a library. Over the years a number of individuals have donated books, journals, photographs, and financial contributions, making this library a unique resource.

Professional Activities

Books

Dr. Segal has authored or edited six books that, collectively, she considers to be among her most significant achievements. Reviews of her books have appeared in *Science*, *Nature*, the *Chronicle of Higher Education*, the *New York Review of Books*, and the *Wall Street Journal*.

In 1997, Dr. Segal coedited (as senior editor with Drs. Glenn and Carol Weisfeld) *Uniting Psychology and Biology: Integrative Perspectives on Human Development* (Washington, D.C.: American Psychological Association Press). This volume resulted from a 1995 festschrift honoring her doctoral advisor, Professor Daniel G. Freedman at the University of Chicago. This conference was funded, in part, by a grant from the APA's Science Directorate. The resulting volume included papers on behavioral-genetic, ethological, cultural, and evolutionary approaches to human behavior. In 1999/2000, she published *Entwined Lives: Twins and What They Tell Us About Human Behavior*. This comprehensive overview of twin research includes chapters on the biology of twinning, research methodology, twins raised apart, and other topics. Research for this book was completed, in part, while Dr. Segal was a visiting scholar at New York University. It was a featured segment on *Dateline NBC* and led to numerous lectureships and speaking engagements.

Dr. Segal's third book, *Indivisible by Two: Lives of Extraordinary Twins* (2005, Harvard University Press), profiles the lives of unusual twin, triplet, and quadruplet sets. The research for this book was supported by an American Fellowship from the *American Association for University Women* and written, in part, while she was a visiting scholar at Harvard University. ABC's *Good Morning America* program included a series around the book's publication, and one essay in the book was the basis for a play, *Oskar y Jack*, by Andrés Roemet and produced in Mexico City, Mexico, in 2012.

In 2011, Dr. Segal published *Someone Else's Twin: The True Story of Babies Switched at Birth* (Prometheus Books). This work documented the behavioral responses and legal issues raised following the discovery that a twin infant was inadvertently exchanged with an unrelated infant in the newborn nursery. She traveled to Gran Canarias, Spain, to complete the research for this book. Her next work, *Born Together-Reared Apart: The Landmark Minnesota Twin Study* (2012, Harvard University Press), reviews the origins, methods, findings, and controversies from the Minnesota Study of Twins Reared Apart. As the winner of the *William James Book Award* for this work, she delivered an invited address at the American Psychological Association's annual convention in 2014, in Washington, D.C.

A forthcoming book is based on research conducted in March/April of 2015 and July 2016. Dr. Segal visited Bogotá, Colombia to research two unusual sets of identical male twins—one twin in each pair had been inadvertently exchanged at birth, setting up a series of unique natural experiments. The book resulting from this work, *Accidental Brothers*, is being written with second author Yesika S. Montoya, from Columbia University and will be published in early 2018 by St. Martin's Press in New York. Dr. Segal's most recent book, *Twin Mythconceptions*, identifies popular beliefs about twins and provides the scientific evidence to either support or refute them. This book was published by Elsevier Press in 2017.

Peer-Reviewed Articles and Other Publications

Dr. Segal has authored nearly 200 scientific publications. The majority of these papers are in peer-reviewed scientific journals, with the remainder published in edited volumes and encyclopedias. Approximately 30 publications include student coauthors. The different journals variously include *Science*, *Child Development*, *Personality and Individual Differences*, and the *Journal of Personality and Social Psychology*. Her work has been cited in *Science*, the *New York Times*, and *Scientific American*. As an associate editor of *Twin Research and Human Genetics*, Dr. Segal writes regular columns for that journal and reviews selected submissions. She has contributed correspondence to a number of scientific publications, such as the *Proceedings of the National Academy of Sciences*, and news sources, such as the *New York Times*.

Dr. Segal published a *New York Times* essay in the weekly Gray Matter section that addressed issues surrounding the experience of being a reared-apart twin (Segal 2014). At the center of this essay was the May 2014 reunion of fraternal female twins who had been separated for 78 years and whom she reunited on her campus. Their time apart distinguished them as the world's longest separated twin pair, a distinction recognized by the 2016 *Guinness Book of Records*. More recently, she published a second article in the *New York Times's* Gray Matter column that compared eye appearance preferences among typical children, typical adults, and atypical children (Segal et al. 2015a). A third article in the Gray Matter column summarized evidence for differences in breast milk quality for male and female newborns (Segal & Kanazawa 2017). This essay was based on a study by Kanazawa and Segal (2017).

Lectures and Honors

Dr. Segal was a visiting scholar at New York University in New York City (1997–1998) and at Harvard University in Cambridge, Massachusetts (2004), where she conducted research and writing for several of her books. In January 2013 she was a visiting scholar at the Singapore Management

University, collaborating on a project with Dr. Norman Li involving adoptees and personality. A scientific paper resulting from that work, coauthored with CSUF graduate student Jamie Graham (now a doctoral student at the University of Texas), has been published (Segal et al. 2015b). In February 2016 she served as an invited visiting professor and twin registry consultant in Brazil, at the University of São Paulo and at the Federal University of Rio Grande de Norte, in Natal. A paper describing twinning rates in São Paulo is available (Otta et al. 2016).

Dr. Segal's international presentations have included invited lectures at the University of Tromsø, Tromsø, Norway; *Ciudad de las Ideas*, Puebla, Mexico; and the Parents of Twins Club Convention, Auckland, New Zealand. In November 2012, she attended the III Congress of Brilliant Minds (*III Congreso des Mentis Brillantes*), in Madrid, where she delivered an address on twin research, participated in a debate on human uniqueness, and completed interviews for newspapers/magazines (e.g., the science magazine, *Muy Interesante*) and television (e.g., the Spanish science program, *Redes*), by the renowned journalist Eduard Punset. (She was featured on a limited edition Pepsi-Cola can at the Madrid meeting!) Dr. Segal was also an invited guest speaker at the *American Philosophical Society* and a guest speaker at the *Science and Cocktails* lecture series in Copenhagen, Denmark, both in April 2016.

Dr. Segal has received honors from both her colleagues and from the twin-based community. She was the 2005 recipient of the *James Shields Award for Lifetime Contributions to Twin Research*. This award is granted by the *International Society for Twin Research* and the *Behavior Genetics Association*. She was the 2006 recipient of the *International Making a Difference Award*, from *Multiple Births Canada*. In addition, she received a 2007 Award for Excellence in Research from *MENSA* and the 2008 *Award for Social Responsibility*, from the *Western Psychological Association*. Her colleagues in the College of Humanities and Social Sciences at CSUF selected her to receive the Award for Outstanding Scholarship and Creativity (2004) and Distinguished

Faculty Member Award (2005). She was also the CSUF Outstanding Professor of the Year (2005).

Dr. Segal has been elected to Fellow Status in the *American Psychological Association*, *Western Psychological Association*, and *Association for Psychological Science*. She was elected as member-at-large for the *Human Behavior and Evolution Society* and trustee for the *International Society for Human Ethology*. In 2016, she won the Wang Family Excellence Award from California State University, a campus-wide competition.

Main Contributions to the Study of Personality and Individual Differences

Dr. Segal's main contributions to the study of personality and individual differences include analyses of twins reared apart and twins reared together. In 1988, she coauthored a paper with University of Minnesota colleagues showing that genetic factors explain approximately half the variation in personality traits across individuals (Tellegen et al. 1988). These results were replicated in subsequent analyses by the Minnesota team; see Segal 2012. It was also shown that sharing an environment with family members does not increase similarity in personality; rather, the unique, non-shared experiences people have apart from their relatives are the environmental factors that shape our personality traits.

Dr. Segal has launched a unique array of studies examining personality similarity in doppelgängers, i.e., unrelated individuals who look very much alike. Her first analysis used 23 pairs of individuals identified by the French Canadian photographer, François Brunelle for his "I'm Not a Look-Alike!" project. Participants completed the PîPi (Personality for Professionals Inventory), a form developed by Jean-Pierre Rolland and Filip de Fruyt that yields scores on the Big Five personality traits of openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism (labeled stability in the PîPi—reverse of neuroticism) (Rolland and Fruyt 2009). Participants also completed the Rosenberg Self-Esteem Inventory (Rosenberg 1989). The mean correlation across the personality traits was $-.05$, and the

mean correlation for self-esteem was $.03$, indicating virtually no similarity between the look-alike pairs (Segal 2013). This study was later replicated using the same 23 pairs plus several additional sets but with a different personality form, i.e., the 60-item NEO (French version). In this analysis, the mean correlation across the Big Five traits was nearly identical to the first at $-.03$ (Segal et al. 2013).

Why are these analyses important? There is a criticism directed against interpretations of twin study findings, namely, that identical twins' personality similarity is not explained by their identical genes, but instead reflects their similar treatment by others who respond to the twins' identical looks. Dr. Segal reasoned that if this were truly the case, then unrelated look-alikes should be as similar in personality as identical twins. Alternatively, she reasoned that if genes significantly affect personality development, then unrelated look-alikes should show little resemblance in personality or self-esteem (as she anticipated). This is what she found. She concluded that if people treated identical twins alike (which they do), then this would be explained by the fact that twins' similar behavior evokes similar treatment from others.

University and Community

Dr. Segal's university activities have included lectures on twin-related topics to OLLI (Osher Lifelong Learning Institute), the Women's Center, and the Presidents' Scholars. She has been part of the Humanities and Social Sciences Research Committee, the Faculty Mentor Program, a University Recruitment Video, a Grants Workshop, and a University-Wide Selection Committee to identify students for *Who's Who Among American Universities and Colleges*.

Dr. Segal has represented CSUF as an expert on twins at community centers, organizations, and media events. Examples include mothers of twins clubs, the Fullerton Unitarian Church, the 92nd Street Y (NYC), and the Fullerton Rotary Club. She has served as a consultant and expert witness on approximately 50 legal cases involving twins. Legal issues she has addressed cover wrongful death, injury, twins' placement in separate versus

same classrooms, and cheating accusations. She serves or has served on the boards of national nonprofit organizations, such as *Twinstuff Outreach* and *The Center for the Study of Loss in Multiple Birth*. She was a contributing editor for *Twins Magazine* from 1984 to 1998.

Dr. Segal frequently participates in local, national and international television, and radio programs, as well as print media. Opportunities have included *National Public Radio*, *Dateline NBC*, the *Oprah Winfrey Show*, *Nightline*, and *Rai-Radio Televisione Italiana*. She was interviewed by *Scientific American* in 2013 for an article concerning NASA's plan to send one twin astronaut (Scott Kelly) to the International Space Station. In December 2013, she took part in a program on twins, produced by *90th Parallel Productions Ltd.*, Toronto, Canada. She was also a guest on BBC's radio program, *The Forum*, discussing research on personality. Media events of 2014 and 2015 include *BBC Radio and NBC's Today Show*; 2016 and 2017 events include CBS's *Sunday Morning Magazine*, *Good morning america* and NPR (National Public Radio).

Teaching

Dr. Segal's diverse research experiences have kept her teaching and mentoring current and lively. Two of her students published *first-authored* papers in peer-reviewed journals in 2015. In 2015, she published a *New York Times* essay with CSUF colleague Dr. Aaron Goetz and graduate student Alberto Moldanado, based on a scientific paper that came out of that work (Segal et al. 2015a, 2016).

Dr. Segal's favorite courses are an undergraduate class in developmental psychology and a graduate level seminar that combines twin research, behavioral genetics, and evolutionary theory. Personality development forms a significant part of these courses. CSUF maintains an active MARC program (Maximizing Access to Research Careers) in which Dr. Segal has mentored several students who went on to be accepted in prestigious doctoral programs around the country.

Current and Future Research Directions

Dr. Segal's current and future research plans include twin research on creativity, personality, social coordination, and bereavement. She has ongoing projects addressing behavioral similarities and differences in Chinese twins reared apart and together and virtual twins (same-age unrelated children raised together). She is collaborating with Australian investigators on cutting-edge research involving epigenetic analyses of twins reared apart and together. She continues to study personality similarities in pairs of genetically unrelated individuals who look-alike. Her research on gender identity in twins reared apart (Segal and Diamond 2014) and twins reared together will continue, as will her case studies of behavioral and physical similarities in adult twins raised apart (Segal and Cortez 2014; Segal et al. 2015c).

Conclusion

Dr. Segal's twin research has made significant contributions to our understanding of factors affecting individual differences in personality and other areas. Twin research will continue to play a major role in such efforts in the future. Identifying the specific genes involved in the different personality traits is a new and lively direction for the field (Plomin et al. 2013).

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Segerstrom, Suzanne

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Introduction

Suzanne C. Segerstrom was born in Boston, Massachusetts, and was raised and educated in Oregon. She received her bachelor's degree with majors in Psychology and Music from Lewis and Clark College in 1990. Her Psychology Ph. D. was completed at the University of California in Los Angeles (UCLA) in 1997, where she majored in Clinical Psychology with minors in Health Psychology and Measurement and Psychometrics and did her clinical internship at Vancouver Hospital – University of British Columbia. Segerstrom was mentored in her doctoral work by the renowned health psychologist Shelley

E. Taylor and also trained under Margaret E. Kemeny, George F. Solomon, and Michelle E. Craske. Her dissertation project, "Optimism is associated with mood, coping, and immune change in response to stress," was the first to relate optimistic expectancies to immune change in healthy adults, received international attention, and was published in the *Journal of Personality and Social Psychology* in 1998. The article is a citation classic, with hundreds of citations in books and journals. Seegerstrom joined the faculty of the Department of Psychology at the University of Kentucky in 1997, where she is a University Research Professor of Psychology and former Associate Chair.

Research Interests

Seegerstrom's research primarily examines the role of individual differences (i.e., personality, cognition, and emotion) on psychological and physiological factors. Of particular interest has been comprehending how aspects of self-regulation, including personality, executive cognitive function, and behavior, can influence psychological and physiological health and well-being. Seegerstrom has also examined cognitive self-regulation as exhibited in repetitive thought, worry, and rumination. In this work, she strives to understand the structure of repetitive thought, how it can best be measured, and any subsequent psychological and physiological effects of such cognition.

Seegerstrom's lines of research have been funded through multiple sources including the National Institute of Health (NIH). Recent projects funded by the NIH examine the health consequences of motivation and goal pursuit in older women, as well as the longitudinal effects of self-regulatory capacity on mental and physical factors in older adults.

Major Contributions to the Study of Personality and Individual Differences

On her path to uncover the roles of self-regulation and optimism in psychoneuroimmunology, Suzanne C. Seegerstrom has played a vital role in

the field of personality and individual differences. One distinct path of her research, perhaps the most well-known so far, focuses on better understanding the role of optimism in how people approach and engage in goals and how they cope and relate to stressful situations.

Optimism, Engagement, and Coping

With her dissertation work, Seegerstrom published the first study to relate optimism to immune change in a healthy population, showing that optimism about law school in first-year students was related to better mood, to less use of avoidance coping strategies, and to better immune function during the stress of law school. Later work showed that change in optimistic expectancies in law school was related to change in immune function and that the relationship was partially accounted for by expectancies' effect on positive (but not negative) mood.

Seegerstrom's work has also addressed the immunological effects of dispositional optimism. Dispositional optimism relates to a generalized positive outlook for the future, and a large body of research has shown higher levels of optimism to be associated with better psychological and physiological adjustment to stressors. Even though optimism has been associated with better psychological and physiological well-being, some contradictory findings exist, suggesting that optimism may sometimes increase indicators of physiological stress. Some researchers have suggested this could be related to unrealistic expectancies by optimists and subsequent disappointment. However, Seegerstrom proposed an alternative model focusing on self-regulation, linking optimism and indicators of physiological stress to engagement and persistence rather than disappointment and negative affect.

Through the engagement model, Seegerstrom proposed that because dispositional optimists see positive outcomes as attainable, they will increase their effort when faced with challenging situations, engaging and persisting toward goal attainment rather than giving up and disengaging. This motivation and engagement increases the likelihood of goal achievement and long-term benefits, but may be accompanied by short-term physiological costs. Supporting this model, Seegerstrom's

research has found optimists to exhibit longer persistence compared with pessimists during stressful tasks, but also to experience higher cortisol levels, indicating higher physiological stress. Similarly, her research with first-year law students has shown that dispositional optimists experience lower immune function compared with less optimistic students when they confront competing goals.

Expecting positive outcomes may lead to pursuit of multiple goals, which in the long run could facilitate goal attainment. It is difficult to pursue many goals at the same time, however, and some goals may even conflict, competing with each other for time and energy. In this line of research, Segerstrom has in fact shown how optimism may be linked to more goal conflict, which could present challenges. For optimists, however, goal conflict did not negatively impact adjustment, and a balance between positive outcome expectancies, conflict, and goal value appeared instead to lead to goal progress.

Further disentangling effects of optimism and engagement during stressor exposure, Segerstrom and her students' work has revealed optimism to be positively associated with approach coping strategies seeking to reduce, solve, or manage stressors and negatively associated with avoidance coping strategies aiming to avoid or withdraw from stressors. She has also found optimists to tend to adjust their choice of coping strategies to meet the demands of the stressor at hand. Comparing choice of coping during controllable (e.g., academic) versus less controllable (e.g., traumatic) stressors, optimism was more strongly related to problem-focused coping for controllable stressors and more emotion-focused coping for uncontrollable stressors such as natural disasters and trauma. In this research, Segerstrom and her team also found optimists to choose coping strategies most adaptive for the situation at hand, and that controllability and related appraisals likely moderate the effects of dispositional optimism on coping.

Self-Regulation

The engagement model of optimism led Segerstrom to turn her attention to self-regulation. The ability to self-regulate is among the most essential factors of human adjustment, indicating

the capacity to exercise control and guide or alter reactions and behaviors. Segerstrom has played a focal role in the research development examining self-regulatory capacity, effort, and fatigue, particularly the physiological correlates. She is behind an influential study suggesting heart rate variability to index self-regulatory strength and effort, showing HRV to be elevated during self-regulatory effort. This study was published in *Psychological Science* and also showed how self-regulation differs from stress in that participants' mood was affected by stressor exposure but not self-regulatory effort and fatigue. Self-regulatory fatigue was also linked to decrease in self-regulatory performance, yet stress was not, and while stress was accompanied by lower HRV and higher heart rate, self-regulatory effort and fatigue were accompanied by higher HRV and lower heart rate. She has subsequently proposed that self-regulation has a "pause and plan" physiological profile characterized by metabolic slowing in several systems and provided empirical evidence for such slowing in the heart, immune system, and liver.

Further Implications

Segerstrom's work may also have clinical implications. The positive relationship between optimistic expectancies and cell-mediated immunity suggests that psychological interventions may improve health, particularly if in doing so the interventions also seek to increase positive affect.

Segerstrom's research also suggests self-regulatory deficits and executive functions to be part of the etiology of chronic multi-symptom illnesses, including chronic pain conditions such as fibromyalgia. In this line of research, she and her students have shown patients with chronic multi-symptom illnesses to display less capacity to persist on tasks following self-regulation tasks, compared with healthy matched controls, even when not acutely fatigued. This work aids in creating a better understanding of the role of self-regulatory fatigue during acute or chronic health challenges.

Adding to the body of research with potential public health implications, Segerstrom's work in later years has also examined the roles of personality, emotion, and cognition in older adults, including topics such as the structure and health

correlates of repetitive thought, the relationship between affect and subjective health, the relationship between cortisol and memory, and the effects of differential mortality on apparent changes in life satisfaction in older age.

Conclusion

Suzanne C. Segerstrom's innovative research has made significant contributions to the field of personality and individual differences. She is a prolific scientist and has won a number of awards during her career, including the Martin E. P. Seligman Award for Outstanding Dissertation Research on the Science of Optimism and Hope, the Templeton Foundation Positive Psychology Prize, and the Robert Ader New Investigator Award from the Psychoneuroimmunology Research Society. She is a Fellow of APA Division 38 (Health Psychology), the Society of Personality and Social Psychology, and the Society of Behavioral Medicine. Suzanne Segerstrom is also the winner of the University of Kentucky A&S Award for Outstanding Graduate Mentoring for 2017. In conclusion, her impact on the intersections among personality and individual differences, health psychology, and psychoneuroimmunology continues to grow, not only through her own groundbreaking research but increasingly also through the many new dedicated scientists she has mentored, guided, and motivated throughout her prolific career.

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SEI

- ▶ [Self-Esteem Inventory \(Coopersmith\)](#)

SEI-SF

- ▶ [Self-Esteem Inventory \(Coopersmith\)](#)

Selection and assessment

- ▶ [Personality, Personnel Selection, and Job Performance](#)

Selective Attention

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Synonyms

- [Differential attention](#)

Definition

Selective attention is defined as the cognitive process of attending to one or fewer sensory stimuli (i.e., external and internal) while ignoring or suppressing all other irrelevant sensory inputs (McLeod 2018; Murphy et al. 2016). Researchers have proposed and examined several different theories for the process of selective attention such as bottleneck theories [i.e., Broadbent's Filter Theory (1958), Deutsch and Deutsch's Late Selection Theory (1963), and Treisman's Attenuation Theory (1964)] that focus on flow and filtering of information and, more recently, load theories [i.e., Lavie's Perceptual Load Theory (1994), Tsal and Benoni's Dilution Theory (2010), and Hybrid Theory (2013)] that address perceptual and cognitive resources expended. While load theories are the primary focus within the cognitive psychology literature, it is often difficult to obtain measures that adequately operationalize these constructs, calling into question the veracity of the theories (Murphy et al. 2016). Nevertheless, selective attention is imperative to one's daily functioning by selectively attending to certain stimuli and not others, avoiding overloading the informational processing system (McLeod 2018; Murphy et al. 2016). Selective attention is also seen as associated features with certain diagnoses. For example, children with attention-deficit/hyperactivity disorder (ADHD), who often display executive functioning difficulties, also show signs of selective attention deficits (Brodeur and Pond 2001). In more of an application context, the voluntary act of selectively attending to behavior or information given is also a primary technique used within child therapy, particularly in reference to behavior management techniques (Girard et al. 2018).

Introduction

Selective attention is defined as the cognitive process of attending to a small number of sensory stimuli (i.e., external and internal) while ignoring or suppressing all other irrelevant sensory inputs (McLeod 2018; Murphy et al. 2016). The process of concentrating on important information while

ignoring distracting, unimportant stimuli is critical to almost all cognitive processes. The amount of available attentional resources is limited, and selective attention circumvents overwhelming one's informational-processing system. Selective attention has been a primary topic of study in the field of cognitive psychology and is commonly seen in the child psychology literature as well (Brodeur and Pond 2001; Girard et al. 2018). However, to fully understand the concept of selective attention, it is first important to understand the various theories.

Early Theories of Selective Attention

Many of the early theories of attention include what is commonly referred to as the "bottleneck" model of informational processing (McLeod 2018; Murphy et al. 2016). When imagining a standard bottle placed horizontally, a large amount of fluid is allowed inside, but, as the opening becomes narrower, smaller amounts of fluid are allowed to pass through the neck, depending on the rate of flow. This is similar to many of the early theories of selective attention. Donald Broadbent's Filter Theory of Attention (1958) is a prime example of an early selection "bottleneck" model of informational processing.

According to Broadbent (1958), all stimuli enter the sensory buffer (the large part of the bottleneck) which assesses the physical characteristics of the stimuli like frequency and location the sound is coming from and only allows few stimuli to enter the selective filter. The unselected stimuli will not be understood, and will decay in the sensory buffer. The selective filter is where the meaning of the stimuli is created, in the perceptual/semantic processor, and the way in which we decide how to respond is determined. An important task used by Broadbent to further examine how selection attention works was the dichotic listening task. The task procedure involves simultaneously sending messages (i.e., three-digit number) to both the left and right ear and having participants repeat both messages. While Broadbent found that participants that listened ear-by-ear did significantly better than those repeating the order of which the messages were

received, there are many criticisms about his theory. The main argument against his theory involves debate about the location where stimuli gain meaning within the selective attention process. The cocktail party effect is the primary source of debate against Broadbent's theory, suggesting that the recognition of one's name being stated at a crowded cocktail party implies that the analysis of stimuli occurs before it gets filtered out (McLeod 2018).

Deutsch and Deutsch (1963), attempting to address the limitations to Broadbent's theory, developed the late selection theory. This theory was consistent with Broadbent's with the exception of switching the order of the perceptual processes and the selective filter. They proposed that all stimuli are analyzed for meaning, but not all stimuli are allowed to pass the filter. They agreed that the physical characteristics are the reason stimuli are selected, along with the relevance of the stimuli's meaning.

In 1964, 1 year later, Anne Treisman proposed her theory of selective attention: the attenuation theory (Treisman 1964). She suggested that the stimuli are not filtered but are attenuated or enter into the sensory register at a lower intensity and are therefore given meaning early on. Her theory, while not directly observable, does explain the limitation of Broadbent's regarding the cocktail party effect (McLeod 2018). Treisman also used the dichotic listening task but sent complete words into both ears instead of a sequence of numbers. Her results showed that people would often combine the messages heard in both ears suggesting that the unattended message is given meaning regardless of whether it is retained.

Recent Theories and Empirical Findings

While the late versus early filtering of the bottleneck model were the primary debates of the mid-1900s, more recent research has suggested a modified hypothesis: Perceptual Load Theory (Lavie and Tsal 1994; Murphy et al. 2016). This theory disregarded the idea of the filter paradigm and, instead, focused on the processing demands of the task at hand. While there is mixed evidence for

and criticisms of this theory, the perceptual load theory has encompassed most of the selective attention research for the past 20 years and has accompanying neural evidence supporting the principles of the theory (e.g., Murphy et al. 2016). This theory suggests that the amount of perceptual and cognitive load regulates how effectively stimuli are selectively attended to, determining whether the response will mimic the early versus late selection process. Perceptual load refers to the external properties of the stimulus, similar to Broadbent's description of the stimuli's physical characteristics (Lavie and Tsal 1994; Murphy et al. 2016). The theory and empirical evidence suggest that irrelevant and distracting stimuli are more difficult to disregard when a person's perceptual load is low. However, research shows that not all follow this pattern, responding based on individual differences, leaving another mechanism of selective attention: cognitive load. Cognitive load is referred to as the internal resources or executive functioning abilities that are required and available for the selective attention task at hand. Research suggests that when cognitive load is high, individuals are more likely to become distracted by irrelevant stimuli and have increased difficulties with selective attention.

As mentioned, the perceptual load theory of selective attention is not without criticism (Murphy et al. 2016). The definition of perceptual load is difficult to operationalize, and, therefore, the accuracy of experimental research results examining this theory are difficult to interpret. The impact that the salience of the distracting stimulus (i.e., distractor) has on the process and the spatial proximity of the stimuli to one another are further issues that make clarification of the theory difficult. However, a primary argument against the theory is the dilution theory, proposed by Tsal and Benoni (2010). It is argued that support for the perceptual load theory within the literature is due to the dilution of the irrelevant stimuli's interference because of neutral stimuli within conditions. While there are debates about Lavie and Tsal's theories, other researchers have recently proposed a hybrid theory that would account for both perceptual load and dilution

(Murphy et al. 2016; Scalf et al. 2013). Scalf et al. (2013) suggest that dilution of a stimulus occurs due to the neural stimuli hindering the representation of the stimuli affecting the processing of the extraneous stimuli, while the cognitive load of an individual will also determine the efficacy and efficiency of the selective attention process.

Selective Attention in Child Psychology

As mentioned, selective attention is imperative to one's daily functioning, avoiding informational system overload which could have maladaptive impacts on an individual. A prime example of this is within the pediatric ADHD population. Executive functioning deficits are commonly seen in children with ADHD, and given that there are often executive functioning difficulties in children diagnosed with ADHD, it is no surprise that these children would also have deficits with their selective attention abilities when compared to others (Brodeur and Pond 2001; Murphy et al. 2016). Brodeur and Pond (2001) also reported that older children were more efficient in their selective attention tasks than younger children (from both groups), suggesting that an individual's cognitive load or executive functioning development may also vary due to age and other demographic factors.

The selective attention processes explained above all focus on the somewhat involuntary process the mind undergoes when deciding stimuli to attend to and which are distractions that should be ignored. Selective attention is also discussed in the context of intentional application on interpersonal interactions. This is seen most often in the child therapy and behavior management literature (Girard et al. 2018). The definition of selective attention from this perspective is the act of only providing attention for positive behaviors and withholding during negative, maladaptive behaviors (e.g., behavioral outburst, attention-seeking behaviors). This is also known as discriminate attention. This involves the process of active ignoring where one will deny the child any form of attention like conversation, eye contact, and positioning the body away from the child until

the specific, problematic behavior has ceased. Structuring child-caregiver interaction using selective attention breaks Patterson's coercive family process model (Patterson 1982). This model explains that the development of some children's maladaptive behaviors derives from only receiving attention when engaging in negative behaviors such as noncompliance and aggression, creating more frequent child noncompliance and aggressive behaviors. This generates a cyclical, problematic coercive child-caregiver interaction. When selective attention is employed, the cycle is reversed, and the child learns to engage in positive and adaptive behaviors in order to gain their desired attention.

Conclusion

While there are numerous theories of how the process of selective attention works, the act of attending to relevant stimuli versus irrelevant stimuli, avoiding overloading the informational processing system, is crucial to one's daily functioning. The intentional employment of selective attention has also proven important within the pediatric behavior management literature.

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Selective Inattention

- ▶ [Repression \(Defense Mechanism\)](#)

Selective Reporting

- ▶ [File Drawer Problem](#)

Self

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Synonyms

[Ego](#); [I](#); [Identity](#); [Individuality](#); [Me](#); [Self-concept](#)

Definition

The self is a structured but dynamic system that comprises the perceptions and evaluations of one's own personal features as well as the processes and mechanisms operating with these items.

Introduction

The ability to reflect upon and evaluate one's own acting, feeling, and thinking is what distinguishes humans from other species. People form a mental construct of being a unique entity, direct attention at their own psychological processes, evaluate these processes, and often attempt to regulate them (Leary and Tangney 2012). Even though the term “self” is not rare in everyday conversations, defining what “the self” is, exactly, has been a challenge. In 1890, William James introduced a distinction between two aspects of the self that was to influence decades of theorists and researchers: the “I,” the self as a subject and regulatory agent, and, the self as object or concept, the “Me.” The “I” is the knower; the “Me” is the known. James further posited three dimensions of the empirical self: the *material self* (one's body and its extensions such as family or belongings), the *social self* (interpersonal relations), and the *spiritual self* (one's personality and values). More specifically the self has been conceptualized as a set of interrelated, dynamically interacting cognitive and affective aspects that are coherently organized (Morf and Mischel 2012). The cognitive aspect of the “Me” constitutes the self-concept, i.e., the attributes someone ascribes to him- or herself, while the affective aspect corresponds to self-esteem, the evaluation of this self-relevant knowledge. The “I,” on the other hand, includes an agentic component with self- and environment-directed aspects of control. Important components include self-regulation and self-presentation. The self accommodates to and assimilates information from the social world and generates behavior. People construct, validate, and present images of themselves during social interactions. These self-perceptions in turn regulate future psychological processes and are influenced by feedback from these processes (e.g., Tice 1992).

Development of Self

The developmental emergence of a cognitive representation of self begins in early childhood. Children's interactions with their family members, peers, or other caretakers have an important

impact on self-representations (Harter 2012). The idea of “me,” implying a meta-representation of the self, forms in childhood. Around the age of 18 months, children are able to identify their bodily self as shown with the rouge test: a spot of rouge is put on a child’s face, and experimenters observe whether he or she touches that spot when placed in front of a mirror. The same strategy has been used for examining self-recognition in animals. Some apes pass the test but most fail.

In human children, the self-concept develops from a rather undifferentiated and simple structure to a more complex, organized, and coherent structure. Verbal self-descriptions are rather concrete at first (“I am three years old. I am a girl”) and later become increasingly abstract, such as including personality traits (Harter 2012). Typically, children’s self-views are often overly positive at first. Later, as they become more adept at perspective-taking, they more and more evaluate their own behavior on the basis of others’ standards, which are internalized and become self-regulatory guidelines.

Self-concept

The self-concept includes the full mass of information and beliefs that a person has with regard to him- or herself. It can be conceptualized as a cognitive schema that encompasses the knowledge and beliefs about oneself, including attributes, values, episodic, and semantic memories (Leary and Tangney 2012). In the following, the self-concept will be described with respect to its content and structure.

Content

The self-concept contains what one believes to be true about oneself. It constitutes the descriptive component of the self, in contrast to the evaluative component, self-esteem. In other words, the self-concept is an individual’s mental model of his or her attributes. Such aspects can refer to how the person perceives him- or herself at a given time and to how the person would like to be or would not want to be. Markus and Nurius (1986) have described possible selves as guidelines to evaluate

oneself, and Ogilvie (1987) has further elaborated on the relevance of undesired or feared selves. In self-discrepancy theory (Higgins 1987), the comparison of current selves with either an ideal (personal hopes and goals) or an ought self (perceived obligations) is relevant in guiding behavior and induces emotional and motivational reactions: an actual-ideal self-discrepancy typically prompts feelings of disappointment and depression, while an actual-ought self-discrepancy triggers guilt and anxiety.

Structure

Research has also been concerned with the question of how the self-concept is represented in memory. Is it stable and internally consistent? Are positive and negative aspects of the self-concept organized in different aspects of the self? Are all aspects similarly important? Many researchers share the idea that the self-concept consists of several facets that are structured hierarchically (Marsh et al. 1992) and that can be distinguished in domains, e.g., in the academic, social, and physical domain. The building blocks of the self-concept have been termed self-schemata (Markus 1977). They are specific beliefs that a person holds about him- or herself and can be considered relatively stable, enduring, and differentiated knowledge structures that individuals develop in order to understand and explain central aspects of the self (e.g., “I am an outgoing person.”). They also affect selection in information processing and thus have impact on memories, perception, and reasoning. Thus, self-schemata are stable elements of the self that contain information about the past and help to integrate new self-relevant information.

Self-complexity. The structure of the self-concept can be more or less complex. As posited in self-complexity theory (Linville 1985), individuals with a complex self-concept have organized their self-related knowledge into many different independent subdivisions. It was assumed that self-complexity serves as a buffer against stress, because stressors most often only concern one aspect of the self-concept. For example, if one’s self-concept concerning physical fitness were to be threatened, that should not influence

self-aspects concerning one's career or close relationships. However, the expected buffering effect for negative events was not supported in empirical research (for an overview see Rafaëli-Mor and Steinberg 2002). Instead, low self-concept complexity seems to be associated with a higher reactivity to negative as well as positive experiences. That is, individuals with low self-concept complexity react more strongly than others to both negative and positive events.

Compartmentalization. Another distinction concerns the structure of negative and positive self-aspects. The degree to which positive and negative traits are organized into separate self-aspects has been termed evaluative compartmentalization (Showers 1992). Compartmentalization means that positive and negative beliefs about the self are separated into different realms (e.g., a person holds negative self-views with regard to the sphere of work but positive ones with regard to leisure), whereas evaluative integration implies that all self-aspects contain positive as well as negative beliefs. While a compartmentalized structure promotes well-being only as long as positive self-aspects are activated, an integrated self-concept structure decreases vulnerability to ego-threats, because negative and positive attributes concerning the threatened aspect are triggered simultaneously. In contrast, a negative compartmentalized structure, meaning that individuals rate purely negative aspects as being important for their self-concept, seems particularly detrimental for self-esteem and well-being (e.g., Zeigler-Hill and Showers 2007).

Self-esteem

Whereas the self-concept is the cognitive component of the self, self-esteem can be described as the affective component. Self-esteem, sometimes also termed self-confidence or self-worth, is the global evaluation of the self. Self-esteem is partly genetically influenced and partly shaped by experiences (Neiss et al. 2002). While research on levels of self-esteem (i.e., low vs. high self-esteem) has a long tradition, self-esteem stability (i.e., changes in self-esteem over time) or the

congruency between reflected and spontaneous attitudes toward oneself has only been discussed in recent years (e.g., Schröder-Abé et al. 2007).

Level of Self-esteem

The overall significance of self-esteem level has been shown in studies finding that individuals with stable high self-esteem report higher well-being, optimism, emotional stability, and lower depression than others. Low self-esteem is associated with negative affect and difficulties in social and performance-related areas. As low self-esteem implies negative to moderate attitudes toward oneself, individuals with low self-esteem tend to be cautious, modest, and self-critical. This self-view often impairs performance, as people tend to set low goals and approach tasks with apprehension. Moreover, self-doubts often sabotage social relations, because people with low self-esteem tend to doubt the quality of their relationships and their interaction partners' affection. Unfortunately, such insecurity and consequent repeated requests for affirmation of affection often result in a severe strain on relationships (Murray and Holmes 2000).

The question of whether low self-esteem actually causes poorer outcomes in life has been hotly debated, and for a time many parents, educators, and others sought to increase children's self-esteem in the hope that it would lead to better outcomes in life. An extensive literature review by Baumeister et al. (2003) concluded that the benefits of high self-esteem (and corresponding costs of low self-esteem) were genuine but far less than usually supposed. Specifically, they reported high self-esteem increases positive emotion and bolsters initiative but has few other benefits. They concluded that self-esteem is more a result than a cause of objective outcomes. Given the widespread interest in self-esteem, this has stimulated a search for positive outcomes. Orth et al. (2012) reported from longitudinal data that self-esteem predicted positive outcomes but mainly subjective ones. For example, high self-esteem led to higher satisfaction with one's work but not to more success or attainment at work. This fits the view that high self-esteem feels good but does not produce much in the way of objective benefits.

Self-esteem Stability

Apart from the level of self-esteem, there are also interindividual differences concerning how stable one's self-esteem is (Kernis and Goldman 2003). People with unstable self-esteem typically react very sensitively to feedback. Especially when self-esteem is high and fragile, feedback that is perceived as threatening often elicits anger, justifications, or defensive and hostile attempts to protect or restore one's feeling of self-worth. Stable self-esteem, in turn, is typically linked to emotional stability, the acceptance of one's weaknesses, and moderate attempts to bolster one's self-esteem by external validation or self-presentation (Kernis and Goldman 2003).

Contingencies of Self-worth

Level and stability of self-esteem partly depend on the individual's contingencies of self-worth, i.e., factors that are relevant to the question of which events will have an impact on a person's self-esteem (Crocker and Wolfe 2001). Typical contingencies are success, others' approval, competition, physical appearance, family support, as well as living up to one's own ethical guidelines. The more pronounced a specific contingency is for a person, the more events in that domain affect self-esteem. External and unstable contingencies or sources of self-esteem that may erode over time, such as others' approval or physical appearance, put the person's self-esteem at risk.

Collective Self-esteem

Finally, next to individual self-esteem, a sense of collective self-esteem has been identified which describes evaluations of oneself derived from being member of a group. As such, the collective self is comprised of the attributes that are ascribed to the self and other group members. In line with social identity theory, threats to one's in-group typically increase in-group favoritism and prejudice as well as hostile feelings toward the out-group (Crocker and Luhtanen 1990).

Self-enhancement

Self-enhancement refers to raising one's self-evaluation, including the cultivation of unrealistically positive self-views. Most people harbor

overly positive self-views and easily forget self-threatening feedback (Sedikides et al. 2016), a tendency that may promote well-being and happiness (for a summary see Schütz and Baumeister 2017). Still, it is often difficult to disentangle objectively warranted positive views from illusory self-enhancement. Recent research that addressed this problem (Humberg et al. *in press*) suggests that positive effects of self-enhancement may be smaller than previously thought.

Nevertheless, there is broad consensus that biased perceptions do occur, that they are stronger under certain conditions and larger in some people than in others, and that their effects are mixed. Self-enhancement seems functional in promoting well-being, but there may be some costs to that. For example, positive biases may make people feel good but may impede performance (at least in the long run) or may disturb social relations (for an overview see Schütz and Baumeister 2017). For instance, overestimating one's abilities makes one feel good in the short run but bears the risk of feeling bad after negative outcomes. In a study with retired people, positive expectations about their physical and social situation were related to short-term well-being but negatively to well-being one year later when symptoms and current self-views were controlled for (Cheng et al. 2009).

Implicit Self-esteem

Self-esteem has predominantly been measured by self-report questionnaires, but these mainly reflect conscious views of self. Based on dual process models, attitude research has distinguished implicit and explicit attitudes, and this distinction has also been applied to self-esteem. Explicit self-esteem relies on self-reflection and can be assessed by self-report but is of course more easily distorted by impression management or faking. Implicit self-esteem, in contrast, is understood as being based on associations between representations of the self and positive or negative evaluations (Greenwald et al. 1998) and is typically assessed indirectly, by observing how people react to self-relevant stimuli. Indirect measures have been criticized for reasons such as large error variance but still seem to be able to predict

significant behavioral outcomes. It had been assumed that indirect measures are immune to faking – which is not the case – but faking is harder with these methods than with self-report questionnaires (Röhner et al. 2011).

Self-esteem discrepancies. Implicit self-esteem is assumed to be shaped by early childhood experiences and rather slow to adjust, even though it has been shown to be affected by evaluative conditioning (i.e., repeatedly pairing the concept “self” with positive or negative stimuli), as well as by social comparison or self-affirmation (DeHart et al. 2013). Importantly, explicit and implicit self-esteem do not necessarily correlate to a high degree, and it is assumed that implicit and explicit self-esteem map onto automatic-intuitive versus controlled-deliberative processes. Discrepancies between the two systems are typically experienced as stressful and related to maladaptive reactions. The combination of high explicit and low implicit self-esteem (fragile SE) or of low explicit and high implicit self-esteem (damaged SE) has been shown to be related to impaired well-being and defensiveness (Schröder-Abé et al. 2007).

Under certain conditions, such as cognitive load, implicit and explicit attitudes seem to converge, because these conditions make people less capable to distort their reports for self-serving or self-presentational purposes. Meta-analytical results show that correlations between explicit and implicit self-esteem measures increase with higher spontaneity of self-reports (Hofmann et al. 2005).

Executive Function and Self-regulation

When considering the agentic domain, the focus is on the “I” or the active self. Self-regulation is one main aspect of the agentic domain. The active self is relevant in modifying one’s thoughts, feelings, and behaviors – it filters information, selects responses, and initiates behavior (Baumeister and Vohs 2012). Even though research on self-regulation and self-control began to spread 40 years ago, the topic has never been more ubiquitous than today, as people seem almost obsessed with self-improvement, and self-regulation is

crucial in reaching short- and long-term goals (Hofmann et al. 2012).

Executive functioning incorporates the active, intentional aspect of the self that is responsible for deliberate, planned, and intentional action (Baumeister and Vohs 2012). Cognitive psychologists emphasize working memory operations, inhibition of impulses, and mental set-shifting or task-switching. Social and personality psychologists focus more on altering responses, goal-directed behavior, decision-making, initiative, exerting control, and conforming to social standards.

Self-regulation, a subcategory of executive function, involves initiating or controlling responses in order to achieve goals, especially by changing, modifying, substituting, or blocking a response. The term self-regulation is most often used to subsume conscious as well as unconscious processes by which behavior is being regulated. Self-control, a subset of self-regulation, refers mainly to deliberate conscious exertion of efforts to change one’s responses. This has mainly been studied in connection with controlling thoughts, emotion regulation, impulse control, and managing task performance.

Unlike self-esteem, self-control has been empirically linked to a broad range of positive objective outcomes. People with good self-control outperform others in multiple domains, including academic and occupational performance, relationship quality, higher happiness, fewer criminal arrests, fewer problems with addiction (e.g., smoking), and longevity.

Strength Model and Ego Depletion

Psychology’s theorizing about the executive aspect of the self lagged behind other areas in the 1980s, possibly because of the heavy emphasis on social cognition at that time. Departing from the cognitivist view, Baumeister and Heatherton (1996) proposed that self-regulation involves the expenditure of energy to overcome desires and change incipient responses. Laboratory tests began to find that after people exerted self-control, their subsequent performance on self-regulatory tasks was impaired (e.g., Baumeister et al. 1998), which is what one would expect if some limited

energy resource were expended in the first task. The phenomenon of reduced regulatory capacity following exertion was dubbed ego depletion. Ego depletion findings have been used to illuminate the executive self. In particular, the same resource is apparently used for self-regulation, decision-making, and initiative.

The basic pattern of ego depletion has been found in several hundred published studies, making it one of the most widely replicated findings in personality and social psychology. It has however attracted criticism of two sorts. Some researchers have proposed alternative models, seeking to dispense with the troublesome notion of limited energy or willpower (e.g., Inzlicht and Schmeichel 2012). Meanwhile, others have questioned whether ego depletion actually occurs. The latter view was supported by a multi-lab study (Hagger et al. 2016) in which the effect was not found – possibly due to the specific manipulation used.

In considering these developments, Baumeister et al. (2018) noted that the two criticisms contradict each other. The failure of the Hagger et al. (2016) study has stimulated others to conduct pre-registered tests of the hypothesis, which have largely been successful (e.g., Dang et al. 2017). Meanwhile, the alternative explanations offer provocative, intriguing ideas, although they fall far short of being able to explain the mass of diverse findings (see Baumeister and Vohs 2016). Although these alternative views have stimulated valuable research that has elaborated the understanding of ego depletion, they do not seem to make the notion of depletion of limited resources obsolete.

Standards and Resources in Self-regulation

As Hofmann et al. (2012) have pointed out, successful self-regulation requires a set of standards and sufficient motivation to invest energy in reducing perceived discrepancies between those standards and the actual state, as well as enough resources to reduce this discrepancy and resist temptations that might impair this goal. Thus, self-regulation is impaired by a lack of standards or their monitoring, by a lack of motivation to decrease perceived discrepancies, or by limited

capacities (e.g., Dohle et al. 2018). In line with this reasoning, Goldschmidt et al. (2018) found a connection between poor working memory and being overweight in children.

The importance of standards was central to the feedback-loop theory of self-regulation put forward by Charles Carver and Michael Scheier (Carver and Scheier 1998). Their initial contributions had been in the area of self-awareness, and one prominent finding was that self-awareness almost always involved comparison to standards. They concluded that the basic purpose of self-awareness was to facilitate self-regulation: people compare themselves to standards and, if they fall short, initiate actions to remedy their deficiencies.

Self-presentation

Another aspect of the agentic self refers to the process of conveying impressions of the self to others. Building on philosophical and sociological thinking of writers such as Charles Cooley and Erving Goffman, psychologists have argued that people often try to convey certain images toward others. In fact, it has been found that many well-established psychological phenomena only occur in the presence of others (Baumeister 1982). Self-presentation has been defined as including unconscious and automatic as well as effortful behavior that influences the impression people make on others (Schlenker 2012) in order to reach interpersonal goals, regulate self-esteem, and increase positive emotions.

Early research on self-presentation treated it as impression management, that is, trying to make a good impression on others. This led to a view that self-presentation was deceptive or illicit, in the sense that people would say insincere or even false things so as to be viewed favorably by others. Although such things do certainly happen, self-presentation should not be considered fundamentally or primarily deceptive: in many cases, people use self-presentation to claim certain identities or to seek social validation for how they regard themselves (e.g., Baumeister 1982; see Schlenker 2012 for an overview).

Self-presentation was widely studied in the 1980s and fell out of fashion in the 1990s, but there has been a recent resurgence of interest in it, newly incarnated as reputation management rather than impression management. That is, human society requires people to maintain a positive reputation so that others will affiliate and cooperate with them (e.g., Tomasello 2016). From an evolutionary perspective, self-presentation can thus be considered far more important than self-esteem: how well you think of yourself has little direct impact on survival and reproduction, whereas how others view you can be decisive for both. This evolutionary argument may provide a useful framework for all the early findings that people respond much more strongly to public than private circumstances (Baumeister 1982).

Behavioral Strategies

Self-presentation motivates a wide range of behaviors, including overt self-description, affirmation of particular attitudes, displaying status symbols or evidence of success, criticizing others, and associating or dissociating oneself with others according to how these others are regarded (e.g., Cialdini et al. 1976). In general, demonstrating one's competencies instead of merely claiming to have them seems more effective.

Useful Self-presentations Are Not Necessarily Positive

Often people aim at conveying a certain image in order to gain influence and power, and those impressions may be advantageous but not always favorable. Typical images are being likable, competent, morally worthy, intimidating, or helpless and needy (Jones and Pittman 1982). Moreover, self-presentation can include self-handicapping (Jones and Rhodewalt 1982). The latter phenomenon often occurs in a competitive or performance-oriented context, when people prevent damage to their self-concept by creating an impediment to their own performance, which can function as an excuse for failure.

Difficulties in Self-presentation

Some goals are partly incompatible. For example, it is difficult to achieve impressions of competence

and likability at the same time (Amabile 1983). Furthermore, self-presentational efforts may backfire and result in unintended effects – and the paradox about self-presentation is that it will be more successful if it does not appear to be intentional. In this line, nonverbal behavior is typically regarded as harder to fake and is therefore perceived as more reliable by observers, as compared to verbal behavior. In fact, the higher people are in emotional intelligence, the more they rely on nonverbal cues if there is a discrepancy between verbal and nonverbal messages (Jacob et al. 2016).

Building and Defending Impressions

Self-presentation consists not only of trying to create a favorable impression. If positive impressions are threatened or damaged, people may use a variety of tactics to defend or repair them. Furthermore, people may be very careful so as to avoid conveying a negative impression, or they may use aggression against third parties to achieve a specific impression (e.g., that they are powerful or even dangerous). In an overarching taxonomy, Schütz (1998) distinguished assertive, defensive, protective, and aggressive self-presentations.

Self-presentational Traces

Next to actual behavior, behavioral traces are also relevant in conveying certain impressions. For example, it has been shown that people's living quarters, their personal websites, or their email aliases convey an impression of the person (e.g., Marcus et al. 2006). In such traces, certain traits can more easily be detected than others. For example, in personal websites self-other agreement was highest with respect to openness and extraversion, whereas it appears to be difficult to rate how agreeable a person is based on his or her website.

So far, in self-presentation research, the effects of interaction partners have largely been neglected. Integrative research is needed to shed light on how self-presentation results in specific impressions and which cues are crucial in determining those.

Conclusion

The self can be seen as a highly complex construct that is unique to human beings. It is a dynamic system that comprises cognitive, affective, and agentic aspects. The self includes what we know or assume about ourselves, how we evaluate that knowledge, and how impressions are structured and transformed into behavior. How our self-concept is structured, how we evaluate ourselves, whether that evaluation is stable or fragile, and how good we are at regulating and presenting ourselves all influence our life significantly. All these aspects have an impact on social functioning, physical and mental health, life satisfaction, and performance.

Cross-References

- ▶ [Compartmentalization](#)
- ▶ [Contingencies of Self-Worth](#)
- ▶ [Contingent Self-Esteem](#)
- ▶ [Ego Depletion](#)
- ▶ [Evaluative Organization](#)
- ▶ [Fragile Self-Esteem](#)
- ▶ [Free Will](#)
- ▶ [Fully Functioning Person](#)
- ▶ [Ideal Self](#)
- ▶ [Identity](#)
- ▶ [Implicit Self-Esteem](#)
- ▶ [Narcissism](#)
- ▶ [Persistence](#)
- ▶ [Personal Growth](#)
- ▶ [Personality in Sport and Exercise: A Motivational Perspective](#)
- ▶ [Positive Illusions](#)
- ▶ [Pride](#)
- ▶ [Proprium](#)
- ▶ [Self-Concept](#)
- ▶ [Self-Disclosure](#)
- ▶ [Self-Efficacy](#)
- ▶ [Self-Enhancement](#)
- ▶ [Self-Esteem](#)
- ▶ [Self-Knowledge](#)
- ▶ [Self-Monitoring](#)
- ▶ [Self-Regulation](#)
- ▶ [Self-Serving Bias](#)
- ▶ [State Self-Esteem Scale](#)

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Self (Jungian Archetype)

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Synonyms

[Collective unconscious](#); [Individuation](#); [Jungian archetypes](#); [Jungian dream analysis](#); [Self within religion](#)

Definition

A concept of a role or personality present in the collective unconscious of all humans that is often expressed through dreams and common cultural narratives such as religion and mythology.

Introduction

Many of Carl Gustav Jung's contributions to the field of psychology remain popular today. The idea of being in touch with one's masculine/feminine side contains seeds of Jung's anima/animus concept. Jung also articulated his concepts of introverted and extroverted personality types,

ideas that led to the popular Meyers-Briggs test (Jung 1923; Myers and McCaulley 1989). One idea that remains more obscure is his concept of the collective unconscious and its archetypes, specifically the archetype of the self.

What About Freud?

Jung's concept of the unconscious differs from Freud's well-known ideas about the topic. Jung and Freud entertained different ideas about the structure of the psyche and the nature of the unconscious. While Freud (1976) mused that the unconscious only contained dark, vile, and repressed elements, Jung viewed the unconscious as containing helpful structures that could aid in human individuation and healing. Jung hypothesized that all of humanity shares a common structure of the psyche as well as a common connection to *his* version of "the unconscious." Jung acknowledged a *personal unconscious* (personal history, memories, awareness, etc.) and saw a *collective unconscious* (shared psychic structure/content/material) beneath it. Jung noticed symbols that referenced roles/personalities common to all humanity – archetypes in the collective unconscious. Jung noticed that these archetypes tended to express themselves in the deeply psychotic as well as in the dreams of more psychologically – and emotionally – healthy individuals. He also noted that these archetypes tended to remain the same across cultures and actually appeared in entertainment narratives (literature, movies, etc.), mythology, and even religion! Due to this evidence, Jung felt convinced that humanity must share the same unconscious realm that these archetypes sprang from. While Freud saw the unconscious as a personal/individual repository for repressed memories, Jung saw two levels of consciousness that connects all humans.

What is an Archetype?

In *Archetypes and the Collective Unconscious*, Jung (1981) himself wrote,

The term “archetype”... designates only those psychic contents which have not been submitted to conscious elaboration and are therefore an immediate datum of psychic experience. . . The archetype is essentially an unconscious content that is altered by becoming conscious and by being perceived, and it takes its colour from the individual consciousness in which it happens to appear. (p. 16)

So, are heroes of legends archetypes? What about Hercules? Jung (1981) stated that “we are dealing with forms that have received a specific stamp and have been handed down through long periods of time. The term ‘archetype’ thus applies only indirectly” (p. 16). So, technically, Hercules fails to qualify as an archetype because his image has been shaped and molded by culture after emerging from the collective unconscious.

Jung distinguished between how archetypes are expressed in mythology versus personal expressions in an individual. Several common archetypes include the mother, the child, and the self. This chapter will discuss the concept of the archetype of the self specifically.

Overall, the archetype of the self is a reflection of only one part of the psyche, albeit the center of the psyche. According to Jung, the psyche possesses several parts that may or may not be conscious to the individual: the *ego*, which is an individual’s scope of consciousness; the *shadow*, which embodies the darker, more sinister sides of an individual’s personality; and the *animus/anima*, which are projections of the masculine (*animus*; present in women) or feminine (*anima*; present in men). The *shadow* and the *ego* are themselves archetypes, whose contents maintain indispensable aspects of the self (Jung 1979). The self resides in the center of the psyche and informs as well as encompasses the other parts of the psyche.

Archetype Expression in the Individual

The definition provided in the section above leaves room for the same archetype (e.g., the self) to present itself in a variety of ways. While the archetype remains the same, the expression or actual form/image of the archetype may vary

from individual to individual. Jung believed that these archetypes best manifest themselves in dreams and visions and can be interpreted with the help of a knowledgeable analyst.

In *Modern Man in Search of a Soul*, Jung (1933) gave an example of the expression of archetypes in dreams, as well as a look into Jungian dream interpretation. The dreamer, a 17-year-old female whom Jung suspected suffered from an “organic disease,” experienced two dreams.

I have terrible dreams. Just recently I dreamed I was coming home at night. Everything is as quiet as death. The door into the living-room is half-open, and I see my mother hanging from the chandelier and swinging to and from in a cold wind that blows in through the open windows. At another time I dreamed that a terrible noise breaks out in the house at night. I go to see what has happened, and find that a frightened horse is tearing through the rooms. At last it finds the door into the hall, and jumps through the hall window from the fourth floor down into the street. I was terrified to see it lying below, all mangled. (pp. 27–28)

Jung then explained the meaning of the dreams, paying close attention to the “horse” and “mother” symbols present (for a full interpretation, see Jung 1933).

These figures must be equivalent one to the other, for they both do the same thing: they commit suicide. The mother symbol is archetypal and refers to a place of origin, to nature. . . It connotes also the unconscious, natural and instinctive life. . . the body in which we dwell or are contained, and it. . . stands for the foundations of consciousness. . . With these allusions I am presenting the idea of the mother in many of its mythological and etymological transformations. . . All this is dream-content, but it is not something which the seventeen-year-old girl has acquired in her individual existence; it is rather a bequest from the past. On the one hand it has been kept alive by the language, and on the other hand it is inherited with the structure of the psyche and is therefore to be found in all times and among all peoples. If we apply our findings to the dream, its meaning will be: the unconscious life destroys itself. That is the dream’s message to the conscious mind of the dreamer. (pp. 28–29)

“Horse” is an archetype that is widely current in mythology and folk-lore. As an animal it represents the non-human psyche, the sub-human, animal side, and therefore the unconscious. . . As a beast of burden it is closely related to the mother-archetype. . . The horse. . . carries one away like a

surge of instinct. Also it has to do with sorcery and magical spells – especially the black, night horse which heralds death. (p. 29)

Finally, Jung (1933) tied the meaning of the two symbols together. He reached the conclusion that the patient suffered from an organic disease that her unconscious was aware of even if her doctors were not.

It is evident, then, that “horse” is the equivalent of “mother” with a slight shift of meaning. The mother stands for life at its origin, and the horse for the merely animal life of the body. If we apply this meaning to the dream, it says: the animal life destroys itself. The two dreams make nearly the same assertion, but, as is usually the case, the second is more specific. . . Both of these dreams, then, point to a serious, and even fatal, organic disease. The prognosis was shortly after borne out in fact. (pp. 29–30)

Jung (1933) emphasized that the symbols in these specific dreams were somewhat stable and maintained their meaning over time despite the young age of the patient. He referred to the symbols as “relatively fixed,” but this is not always the case with Jungian dream analysis.

As for the relatively fixed symbols, this example gives a fair idea of their general nature. There are a great many of them, and they may differ in individual cases by subtle shifts of meaning. It is only through comparative studies in mythology, folklore, religion and language that we can determine these symbols in a scientific way. The evolutionary stages through which the human psyche has passed are more clearly discernible in the dream than in consciousness. The dream speaks in images, and gives expression to instincts, that are derived from the most primitive levels of nature. (p. 30)

Obviously, the example given above functions as a warning to alert the dreamer of impending tragedy. The dreams simply facilitated communication between the individual’s unconscious and conscious realms. Furthermore, the above example illustrates the general goal of individual analysis, which is to assimilate the contents of the unconscious into consciousness. . . essentially, to become more aware as a human being. Jung called this process “individuation” and described the experience as a worthy goal for human beings to strive towards. “It [analysis] leads in the end to that distant goal (which

may perhaps have been the first urge to life), the bringing into reality of the whole human being – that is, individuation” (Jung 1933, p. 31). While the rigor involved in identifying archetypes on an individual level may be reserved for Jungian analysts, other expressions or symbols of the self-archetype can be found in more communal narratives embedded in myths, folklore, and religion.

Archetype Expression in Religion and Myth

Jung believed that archetypes could be expressed in community-maintained realms such as religion, mythology, and cultural narratives. Because these archetypes had been consciously “worked over” to fit a certain narrative and to maintain a certain character, Jung argued that these figures are not archetypes in the pure, unadulterated sense of the term.

Jung proposed that various symbols represent the archetype of the self in religions and myths. Recognizable symbols (an expression of the self-archetype) include trees (Tree of Life in Christianity; Kalpataru, the Wish-Fulfilling Tree in Hinduism), hearts (the concept of asking Jesus into your heart in Christianity; “giving your heart away” when you fall in love), and suns (ancient-Egyptian sun god Ra). Even in modern spirituality, the idea of “spirit”, a consciousness that permeates all, symbolizes the self.

According to Jung, religion acts as a reflecting surface (or to use modern language, “a container”) where communities project their collective self-archetype (Edinger 1996). (This projection would explain why religion, and even the expression of the same religion, varies from culture to culture.) Jung postulated that individuals in faith communities could fail to fully individuate as long as they relied solely on the faith-based projection of the self instead of looking inward and exploring their true selves (the ego, shadow, anima/animus), with the goal of integrating these aspects of the self into the whole by becoming aware of them (Edinger 1996). Jung advocated a more symbolic, mythological

interpretation of religion instead of a literal interpretation. According to Jung, the penultimate archetype of the self is expressed in the figure of Jesus Christ. Below are just a few of the reasons Jesus provides a reflection of the self-archetype for Christians specifically (Jung 1970):

- Symbolically enacted the individuation process through his descent to hell (retrieving unconscious content) and ascent into heaven (assimilating content).
- Integrated Old Testament and New Testament teachings and/or promises/expectations. “Do not think I have come to abolish the Law or the Prophets; I have not come to abolish them but to fulfill them” (Matthew 5:17, New International Version).
- Represented a whole, integrated person through his simultaneously divine and human nature.

The presence of the self-archetype within each individual human (through the collective unconscious) provides the psychological backdrop for an individual to accept the Christian message (Jung 1970).

Conclusion

The archetype of the self arises from the collective unconscious that all humans share. Expressions of the self-archetype can be found in personal dreams, which can be interpreted with the help of a Jungian analyst. The goal of analysis is to assimilate the unconscious content into the conscious realm (individuation). Mythological narratives and religion also contain expressions of the self-archetype that can be easier to identify. However, these religious and mythological characters are indirect expressions of the self-archetype because they have been molded by society and passed down for generations.

Cross-References

- ▶ Archetypes
- ▶ Collective Unconscious
- ▶ Conscious, Preconscious, and Unconscious

- ▶ Extraversion-Introversion (Jung’s Theory)
- ▶ Personal Unconscious
- ▶ Psychological Types (Jung)

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Self Within Religion

- ▶ Self (Jungian Archetype)

Self/Other Evaluations

- ▶ Social Comparisons (Upward and Downward)

Self-Acceptance

- ▶ Self-Compassion
- ▶ Self-Esteem

Self-Actualization

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Definition

There are various psychological definitions of self-actualization, but these converge on the idea of an organism reaching its full existential capacity. Abraham Maslow popularized the term in the context of his theory of human personality and motivation, though a number of psychologists have employed the term with slightly different theoretical emphases, including one of Maslow's mentors, Kurt Goldstein (e.g., Goldstein 1940). Maslow's particular sense of self-actualization describes the highest potential of human flourishing, a state of being in which motivation itself largely falls away:

Self-actualization, the coming to full development and actuality of the potentialities of the organism, is more akin to growth and maturation than it is to habit formation or association via reward, that is, it is not acquired from without but is rather an unfolding from within of what is, in a subtle sense, already there. Spontaneity at the self-actualizing level – being healthy, natural – is unmotivated; indeed it is the contradiction of motivation. (Maslow 1954/1970, p. 33)

Key Information

Maslow anticipated, and attempted to corroborate in a seminal though nonsystematic empirical study, that self-actualized individuals would exhibit a number of characteristics as part of their spontaneous self-expression. These included “more efficient perceptions of reality and more comfortable relations with it” (Maslow 1954/1970, p. 153); acceptance of self, others and nature (p. 155); “spontaneity; simplicity, naturalness” (p. 157); “problem centering” (p. 159); detachment and “need for privacy” (p. 160); autonomy, “independence of culture and environment,” and ability

to be active, willing agents (p. 162); “continued freshness of appreciation” (p. 163), inclinations to “mystic” and “peak” experiences (p. 164); a “genuine desire to help the human race” (p. 165); “deeper and more profound interpersonal relations than any other adults” (p. 166); a “democratic character structure” (p. 167); a “discrimination between means and ends, between good and evil” (p. 168); a “philosophical, unhostile sense of humor” (p. 169); a kind of “creativity” distinct from a professional artist’s “creativity” in that is “kin to the naïve and universal creativeness of unspoiled children” (p. 170); “resistance to enculturation”, “the transcendence of any particular culture” (p. 171); and values derived from a “source trait of acceptance” (p. 177). Maslow, resisting the presentation of self-actualization as a pure state of human perfection, noted distinctive flaws in self-actualizers, like being “occasionally capable of an extraordinary and unexpected ruthlessness” and “surgical coldness” (p. 175).

Maslow was particularly fascinated by the ability of self-actualized individuals to resolve apparent dichotomies, like those between selfishness and unselfishness and sexuality and spirituality. Maslow also noted, “in these people, the id, the ego and the superego are collaborative and synergic; they do not war with each other nor are their interests in basic disagreement as they are in neurotic people” (p. 179)

This ability to reconcile or transcend apparent opposites is also often associated with Daoism, a worldview that Maslow frequently references. The Daoist concept of *wu-wei*, or nonstriving (with the implication of achieving virtuosity at something without striving), had a notable influence on Maslow's understanding of self-actualization. Referencing Daoist philosopher Laozi, Maslow uses learning to dance to illustrate movement toward, and ultimate experience of, the self-actualized state:

One must “learn” for such purpose to be able to drop inhibitions, self-consciousness, will, control, acculturation, and dignity. (“When once you are free from all seeming, from all craving and lusting, then you will move of your own impulse, without so much as knowing that you move” – Lao Tse [Laozi])... [D]evelopment then proceeds from within rather than from without, and paradoxically the highest motive is to be unmotivated and

non-striving, i.e., to behave purely expressively.” (Maslow 1954/1970, pp. 134–135)

Maslow thus anticipated that reaching the expressive state of self-actualization might require some initial striving, but that upon reaching it all striving would fall away. Maslow also expected that individuals would not even begin to strive for self-actualization until other, more basic needs – those described in his “hierarchy of needs” – had all been fully or partially met.

Broader Context of the Human Potential Movement and Humanistic Psychology

Maslow took an interest in this spontaneously expressive, opposite-reconciling state of being in the context of the human potential movement and the humanistic psychology tradition. He was a central figure in both. The human potential movement belongs to a broad class of “true self”-cultivating therapeutic social movements. Historian of psychotherapy Philip Cushman has argued that these “true self” movements were popular in the United States at least since the nineteenth century and took the form of scientifically-framed reworkings of Protestant individualism (Cushman 1995).

The human potential movement, though influenced by this relatively unique American tradition, was also responsive to and generally continuous with the psychoanalytic or psychodynamic movement. Humanistic psychologists, while accepting Freud’s notion of a dynamic unconscious whose contents were of therapeutic interest, did not accept Freud’s pessimistic view that the best outcome any human being could expect was “common unhappiness” (Freud and Breuer 1895/2004, p. 305). Freud imagined peak psychological health as being freed from neurosis and psychosis by psychoanalysis, but still being necessarily unsatisfied. Freud (1930/2010) argued that dissatisfaction was inescapable because the ever-pressing drives rooted in our evolutionary past (the instinctive drives of “the id”) are incompatible both with our early childhood moral training (consciously and unconsciously embedded in

our “superego”) and with maintaining a civilized social order (one of the many practical aspirations of “the ego”).

“True self” movements, including the human potential movement, imagined a best outcome much closer to an individualized heaven state, a pinnacle of near perfection, or at least coherent wholeness and integration (Cushman 1995). The findings of Gestalt psychologists that various organisms, including humans, tend to spontaneously perceive whole and relation-sensitive forms from a complex and potentially fragmented sensory input had a strong theoretical influence on both the human potential movement and humanistic psychology (Maslow 1954/1970, pp. 305–307). To the extent, the story of our perception is a striving for wholeness, humanistic psychology conceived the story of our general existence in similar terms.

Key figures of the human potential movement sometimes acknowledged the tension that Freud identified between unconscious drives and the aspiration to a civilized social order. However, these figures often treated the latter as a dispensable obstacle to full individual flourishing. Filmmaker Adam Curtis, in his BBC documentary about the human potential movement (appropriately named, *There Is a Policeman Inside All Our Heads He Must Be Destroyed*), summarized the movement’s view as follows: “the unconscious forces inside the human mind... were good. It was their repression by society that distorted them. That is what made people dangerous” (Curtis 2002).

Maslow cautiously echoed this perspective:

Many people still think of “the unconscious,” of regression, and of primary process cognition as necessarily unhealthy, or dangerous or bad. Psychotherapeutic experience is slowly teaching us otherwise. Our depths can also be good, or beautiful or desirable. (Toward a Psychology of Being, p. 184)

The tradition of humanistic psychology, as a particular theoretical and therapeutic tradition, was largely continuous with the human potential movement that Maslow was central to. Humanistic psychology brought a more optimistic yet countercultural liberal perspective into the mainstream of American psychology, paralleling the

way that the human potential movement brought this perspective closer to the broader American mainstream. Humanistic psychologists aspired to be a “third force” in psychology, rejecting the stark limitations on humanity articulated both by the Freudians and by the behaviorists. Humanistic therapies, like Carl Rogers’ client-centered therapy and Fritz Perls’ Gestalt Therapy, were designed in part to break down the socialized barriers to individual self-expression.

Self-Actualization in Tension with Social Control

Though Freudian practice also sought to transcend self-censorship with free association and dream analysis (as Maslow himself noted appreciatively, 1954/1970, pp. 146–148), Freud’s interest was in exposing the contents of the unconscious to gain more effective conscious control over them, so that the dangerous unconscious would wreak less havoc in individual lives and on civilization generally (Cushman 1995). For many humanistic therapists in contrast, the purpose of unrestricted self-expression was not to expose something potentially dangerous in need of better-informed control, but to free something essential to individual flourishing from social control altogether (Curtis 2002). The humanistic psychological expectation was that this unrestricted self-expression of unconscious impulses would help individuals not only perceive and articulate their own path toward psychological health, but in the process overcome the artificial limits that society conditioned them to impose on themselves.

Maslow himself, in fact, cautiously resisted denigrating all forms of conscious self-control and distinguished between fear-based control (which he considered more neurotic) and other, healthier forms:

There are . . . controls upon the psyche which do not come out of fear, but out of the necessities for keeping it integrated, organized and unified . . . And there are also “controls” . . . which are necessary as capacities are actualized, and as higher

forms of expression are sought for, e.g., acquisition of skills through hard work by the artist. . . . But these controls are eventually transcended and become aspects of spontaneity, as they become self. (Maslow 1962, p. 184)

In Maslow’s framing, self-actualization may be considered a teleological end state, an ideal that some handful of individuals achieve under ordinary circumstances, but that humanistic therapy could potentially help a much larger number of individuals more closely approach. In his time, Maslow perceived that very few people manifested this expressive state of self-actualization as a reliable marker of personality. He wrote, “Though, in principle, self-actualization is easy, in practice it rarely happens (by my criteria, certainly in less than 1% of the adult population)” (Maslow 1962, p. 190). He explained this small proportion of self-actualizers by the various factors contributing to general society-wide psychopathology, as well as factors like “the conviction that man’s intrinsic nature is evil or dangerous” and the fact that “humans no longer have strong instincts which tell them unequivocally what to do, when, where and how” (p. 190).

Criticism

The self-actualization concept has received diverse criticism, and Maslow himself was unsatisfied with how it was often interpreted (Maslow 1966, p. 109). A common theme in these critiques is the potential selfishness and asocial impulsivity that striving for self-actualization might arouse, especially to the extent self-actualization is perceived as an ego ideal, or an elite psychological status to obtain that might bring other material benefits, like wealth, professional advancement, or attractive romantic partners. For instance, Curtis’s (2002) examination of the human potential movement implies that Maslow’s conception of society-transcending liberal self-actualizers was very easy to depoliticize in an atomistic individualistic direction or even politicize in a rightward direction. The human potential movement generally has sometimes been critiqued as a part of a

broader trend of individual self-expressive indulgence undermining the political force of more radical collective action-based movements from the 1960s and 1970s, such as the Civil Rights and anti-war movements (see, e.g., Cushman 1995).

Conclusion

Self-actualization is a concept that might be considered analogous to Protestant predestination in its likely effect on aspirational behavior. Ideally, being “heaven-bound” is something that should be independent of one’s efforts, a pure product of being one of the “elect.” In practice, however, being perceived as heaven-bound—by oneself or others—is something that people could strive for, as Max Weber famously noted.

Self-actualization appears to function as a kind of secularized existential anointment, a kind of “cool” for adults. It is theoretically available only to a small select elite, and yet, like predestined heaven-attainment status, it can inspire masses of people to strive to look like they have it even if they do not.

According to Maslow, self-actualization is a state in which motivated striving falls away and authentic integrated free expression flows naturally from every pore of one’s being. And to the extent others appear to achieve this state and reap the benefits of that appearance, it is a state that can be made the object of some very motivated striving indeed, often with ironic results.

Cross-References

- ▶ [Fully Functioning Person](#)
- ▶ [Humanistic Perspective](#)
- ▶ [Ideal Self](#)
- ▶ [Personal Growth](#)

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Self-Actualization Needs

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Introduction

Self-actualization needs, as identified by psychologist Abraham Maslow, are the needs related to achieving peak human flourishing.

Key Information

Abraham Maslow conceived of self-actualization as an ideal psychological end state that a human being might reach after largely satisfying other, more fundamental needs. Maslow’s theory was that humans have a “hierarchy of needs” that existential urgency drives them to address in a particular order. At the bottom of the hierarchy are physiological needs, such as need for air, water, food, and a functional body temperature (Maslow 1954/1970, pp. 35–38). Next are safety needs, like security, protection from physical and psychological harm, and a sense of law and order having the edge over chaos (pp. 39–43). Next are belongingness and love needs, such as with a romantic partner, with friends and family, and with broader circles like social groups, religions, and nations (pp. 43–45). Next are esteem needs, consisting of first the need for the kind of competence and mastery that assures autonomy, and second the need for esteem from others that

assures prestige, status, fame, or dominance (pp. 45–47). At the top of the hierarchy is self-actualization, and Maslow anticipated that satisfying this ultimate need would lead to a melting away of all need-driven motivated striving, letting subsequent action be more purely expressive and spontaneous (p. 33).

According to Maslow, the urge to satisfy a higher need is less likely to occur if a lower need is not sufficiently satisfied. Maslow did not understand his own hierarchy rigidly, however, and noted a number of possible exceptions to it, like martyrs who “will give up everything for the sake of a particular ideal, or value” (Maslow 1954/1970, p. 53). The basic reasoning behind his hierarchical need system was simply that, “we should never have the desire to compose music or create mathematical systems, or to adorn our homes, or to be well dressed if our stomachs were empty most of the time, or if we were continually dying of thirst, or if we were continually threatened by an always impending catastrophe, or if everyone hated us” (p. 24).

Consistent with this theoretical approach, Maslow saw the need for self-actualization arising only when these other more basic needs had been sufficiently addressed:

a new discontent and restlessness will soon develop, unless the individual is doing what he, individually, is fitted for. A musician must make music, an artist must paint, a poet must write, if he is to be ultimately at peace with himself. (Maslow 1954/1970, p. 46)

Maslow also noted that “studies of psychologically healthy people indicate that they are, as a defining characteristic, attracted to the mysterious, to the unknown, to the chaotic, unorganized and unexplained” (p. 49). He saw this attraction as reflecting a “cognitive” need that was both continuous with and distinct from the needs that he called “conative, i.e., having a striving character” (p. 51).

The Relationship of Self-Actualization to Meeting Other Human Needs

Superficially, Maslow’s hierarchy appears to contradict Erikson’s (1959/1994) stage theory of psychosocial development. For instance, while

Erikson imagined that it was necessary to arrive at a stable and accurate sense of self (i.e. resolve one’s adolescent “identity crisis”) before successfully establishing relational intimacy, Maslow’s hierarchy potentially suggests a reverse ordering: that an actualized expression of the true self is achievable only after belongingness needs (including intimacy) have been satisfied. Yet, in practice, Maslow supported the common therapeutic approach of helping a client find their “Real Self” (Maslow 1954/1970, p. 95) as a means of individually seeking things they lacked, like achieving security, belongingness, and esteem needs.

Part of the apparent contradiction may be resolved by the expected rarity of self-actualization achievement relative to achieving a more practical sense of self, one sufficient for sustainable relational intimacy. Maslow sometimes appeared to suggest that self-actualization was something of which only a few advanced humans were capable anyway, as if they were a special subgroup of the human species:

Could these self-actualizing people be more human, more revealing of the original nature of the species, closer to the species type in the taxonomical sense? Ought a biological species to be judged by its crippled, warped, only partially developed specimens, or by examples that have been overdomesticated, caged and trained? (Maslow 1954/1970, p. 159)

Yet Maslow also implied that the obstacle to more widespread self-actualization was that the structure of even advanced wealthy Western rights-respecting societies did not go sufficiently far to meeting most people’s more basic needs:

Higher needs require better outside conditions to make them possible. Better environmental conditions (familial, economic, political, educational, etc.) are all more necessary to allow people to love each other than to keep them from killing each other. Very good conditions are required to make self-actualizing possible. (Maslow 1954/1970, p. 99)

Maslow recommended therapy, presumably of the humanistic kind in particular, as a means of guiding people towards self-actualization individual-by-individual. He also recommended therapy as a means of resistance to the kind of society that hobbled people by denying them their needs, whether basic or advanced:

Psychotherapy socially amounts to running counter to the basic stresses and tendencies in a sick society...therapy amounts to fighting against the sickness-producing forces in society on an individual scale. It tries, so to speak, to turn the tide, to bore from within, to be revolutionary or radical in an ultimate etymological sense. (Maslow 1954/1970, p. 256)

It was primarily Maslow's "individual scale" therapeutic ambitions, not his broader socially revolutionary ones, that were influential in psychology as a profession and in American and Western culture more generally. This fact may have contributed to what Maslow considered misinterpretations of his theory (Maslow 1966, p. 109).

It may also have contributed to as well as to critiques charging that Maslow's idealization of self-actualization encouraged a kind of thoughtless and impulsive asocial selfishness in ordinary people. Even in the absence of actually reaching self-actualization, people influenced by Maslow's ideas may have been seeking to pose credibly as self-actualized in order to have self-actualized status.

BBC documentary filmmaker Adam Curtis, for instance, argued that the popularization of individualistic self-expressive ambitions (including the ambition to self-actualization) ultimately just intensified the pervasiveness of consumer culture, as people tended to express themselves by purchasing products and services that matched their perceived identity (Curtis 2002). According to Curtis, this increased demand served the interests of economic and political elites who could profit from supplying market satisfaction of those multiple and ever-shifting demands.

Empirical Research on Self-Actualization Needs with the Stanford Research Institute

Curtis also notes Maslow's assistance to market research on self-actualization seekers in his work for the Stanford Research Institute (SRI). In the 1970s, SRI was investigating how people's values

and lifestyles (VALs) impacted their consumer and political preferences. With Maslow's help, SRI identified three broad categories of VALs consumers corresponding roughly to Maslow's hierarchy of needs: the Need Driven, the Outer Directed, and the Inner Directed (Context Institute 1983/1996). Curtis (2002) linked the rise of self-actualization-seeking Inner Directed to the landslide elections of welfare state-eroding political candidates Ronald Reagan and Margaret Thatcher. Reagan was particularly popular with Inner Directed, who had become a significant portion of the U.S. population—about 20%—by the end of the 1970s (Context Institute 1983/1996).

It is notable that SRI classed Inner Directed only as people "concerned with inner growth" (Context Institute 1983/1996), not necessarily as achievers of it. Those whom SRI labeled as "integrated" – the subset of the sample combining both Outer-Directed and Inner-Directed values – were the only group portrayed as actually achieving self-actualization:

At the pinnacle of the VALS typology is a small group we call the Integrated (2% of population). These rare people have put it all together. They meld the power of Outer-Direction with the sensitivity of Inner-Direction. They are fully mature in a psychological sense... They tend to be self-assured, *self-actualizing* [italics mine], self-expressive, keenly aware of issues and sentiments, and often possessed of a world perspective. These highly unusual people are the Lincolns and Jeffersons and Einsteins and Schweitzers and Huxleys and Hammarskjolds of society. (Context Institute 1983, p. 12)

This summary of "integrated" shows Maslow's influence at SRI, as Maslow himself had identified Lincoln, Jefferson, Einstein, Schweitzer, and Huxley as exemplars of self-actualization as part of his own non-systematic empirical study of self-actualizers (Maslow 1954/1970, p. 152). Yet SRI's "Inner Directed" may be closer to what Maslow often described as self-actualization-inclined individuals, as Maslow emphasized the receptive, not productive, capacities of such individuals. Also, in other writings he treated being "integrated" as a special case of self-actualizing

creativity rather than its norm (e.g. Maslow 1962, p. 135).

Political Implications and Consequences of Perceived Self-Actualization Needs

As his focus was primarily on individual growth toward psychological health, Maslow did not make clear to what extent self-actualization was necessary for transforming society to make it more effective at broadly meeting more basic needs. Nor did he indicate what leadership role in any society-changing project was appropriate for non-actualized individuals, the vast majority of humanity by Maslow's estimation. Curtis (2002) suggests that in the wake of the 1970 Kent State shootings and other political frustrations, many previously on the politically active left opted to work on individual transformation first, with the hope that successfully achieving something like self-actualization individual-by-individual would bring revolutionary social transformation later. Maslow's theory does not directly imply this ordering of priorities, however.

What Maslow did imply was that some "regression" or childlike receptivity to one's primary processes could be a good thing for psychological health (Maslow 1962, p. 184, p. 193). Ironically, perhaps, regression also appears to play a role—a counter-therapeutic one—in both consumer culture and in forms of coercion whose goal is to advance or defend the ideology underlying consumer culture. According to social critic Naomi Klein (2007), the mass induction of regression, voluntarily or non-voluntarily, has been psychologically essential to expanding the reach of a privatizing, deregulating, welfare state-eroding, public sector-shrinking political-economic vision associated with the Chicago School of economics. Political leaders like Ronald Reagan and Margaret Thatcher, whom the self-actualization-seeking Inner Directeds supported (Curtis 2002), were largely aligned with the Chicago School vision.

Social critic Benjamin Barber (2008) also notes that the consumer culture associated with

this vision "infantilizes" the populations subjected to it. The Chicago School vision came to dominate the United States and much of the globe for decades in the wake of the Human Potential Movement, though to what extent the movement generally or Maslow's ideas specifically enabled or resisted that vision is difficult to determine.

Conclusion

Whether or not self-actualization is a need, it has become an increasingly articulated desire that fits well with individualist cultures and political economies. Maslow's original intentions in identifying self-actualization needs appeared to include societal reforms that would enable other fundamental needs to be widely met. With these lower-tier needs met, more people could achieve the rare self-actualization state and so could be "fully human" in the way that Maslow envisioned. In practice, however, it appears that the cultural valuation of self-actualization needs has sometimes bolstered policies and structures that have undermined the kind of social reforms that Maslow would have supported to make genuine self-actualization a more common human experience.

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Self-Actualizing Creativity

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Introduction

A distinct form of creativity called “creativity” is one of the important traits that personality psychologist Abraham Maslow identified. He considered “creativity” to be a core feature of self-actualizing people—those who had, according to Maslow’s theory, satisfied the more basic foundations of his “hierarchy of needs” and so were able to spontaneously express a peak form of human flourishing.

Key Information

Maslow distinguished the “creativity” he observed in self-actualizing people from the creativity for which productive and culturally influential artists of various kinds are known. Maslow considered artistic creativity to be potentially uncorrelated with psychological health, given the reputation of many famous artists for intense psychological distress and disruption (Toward a Psychology of Being, p. 127). He wrote that self-actualizing creativity:

sprang much more directly from the personality, and . . . showed itself widely in the ordinary affairs of life, for instance, in a certain kind of humor. It looked like a tendency to do anything creatively: e.g., housekeeping, teaching, etc. (p. 129)

An essential feature of this creativity for Maslow was its open, childlike quality. He identified self-actualizing creativity with “openness to experience,” an “ability to express ideas and impulses without strangulation and without fear of ridicule” and “uninhibited spontaneity and expressiveness” (p. 129). He considered self-actualizers to enjoy a kind of “second naivete” insofar as “their innocence of perception and expressiveness was combined with sophisticated minds” (p. 130).

Crucial to this creativity for Maslow was a lack of fear of the unknown, and even a strong attraction to it without prematurely assigning it to one side of a binary pair of categories (like good and evil, etc.). He noted that self-actualizers did not need to reach certainty prematurely and were comfortable with some degree of chaos, presumably because needs for order and security are already taken care of among those inclined to self-actualization.

Another aspect of self-actualizing creativity is an ability to reconcile apparent contradictions, like:

kindness-ruthlessness, concreteness-abstractness, acceptance-rebellion, self-society, adjustment-maladjustment, detachment from other-identification with others, serious-humorous, Dionysian-Apollonian, introverted-extraverted, intense-casual, serious-frivolous, conventional-unconventional, mystic-realistic, active-passive, masculine-feminine, lust-love, and Eros-Agape. (Maslow 1954/1970, p. 179)

Maslow noted that great artists and theorists accomplish precisely this kind of unified reconciliation of clashing elements or apparent contradictions (Maslow 1962, pp. 131–132).

Relation to Freudian Theory of Primary and Secondary Processes

Maslow saw a kind of integrated or whole person-based self-acceptance as being key to self-actualizing creativity. That self-acceptance allowed self-actualizers to freely express all of their emotions and, in Freudian terms, their “primary thought processes” instead of controlling and repressing them (Maslow 1962, pp. 132–135). Maslow also saw the self-actualizers’ “peak experiences” as reflecting this essential receptivity to their primary processes.

He distinguished the “primary creativity” arising from this receptivity to be distinct from the “secondary creativity” that involves reliance on what Freud called “secondary thought processes,” the ones directed to concretely manifesting the desires of the primary thought processes in the world. Secondary creativity is thus the kind that “includes a large proportion of

production-in-the-world, the bridges, the houses, the new automobiles, even many scientific experiments and much literary work. All of these are essentially the consolidation and development of other people's ideas" (Maslow 1962, p. 135).

When both receptive primary and productive secondary creativity were present, Maslow called this "integrated creativeness," the kind associated with great achievements in art, philosophy, and science. He did not consider self-actualization necessary or sufficient for these achievements, however, and associated self-actualization first with primary creativity.

Political Leanings of Self-Actualized Creativeness

To the extent Maslow saw "openness to experience" as central to self-actualizing creativity, this suggests that self-actualization itself may be easily confused with liberalism, as liberalism is known to correlate with trait-level openness to experience (Jost et al. 2003). In general, the political leanings of those Maslow perceived as self-actualizers – a list that included Albert Einstein, Adlai Stevenson, Walt Whitman, and Thomas Jefferson (Maslow 1954/1970) – were relatively liberal. Being "liberal" in this case is distinct both from being "conservative" (conventional, authoritarian) and from advocating something more collectivistically radical or left-wing. This liberalism is consistent with the centrality of autonomy and independence from acculturation to the self-actualization concept.

It is true that Maslow's list of historical self-actualizers included more radical figures like the socialist presidential candidate Eugene V. Debs and slavery resister Frederick Douglas, and that one of the living subjects of his study was a former union organizer who had "given up in disgust and hopelessness" (Maslow 1954/1970, p. 172). However, Maslow noted that generally his self-actualizers were only potentially rather than actually radical. They showed a "calm, long-time concern with culture improvement [and] . . . an acceptance of slowness of change along with the

unquestioned desirability and necessity of such change" (p. 172), qualities more characteristic of liberals.

Conclusion

Maslow's characterization of those with identifiably liberal-seeming "creativeness" traits as the self-actualizers enjoying the highest possible expression of human potential is one potentially biased by Maslow's own affection for those traits. His characterization remains influential anyway and generally uncontroversial in psychology, at least in Anglo-American psychology. Nevertheless, it is reasonable to assume that openness to experience, a delight in reconciling opposites, and spontaneous, expressive comfort with chaos characterizes some communities and cultures more than others. These traits may also be unevenly distributed among the various cultural elites who enjoy the greatest satisfaction of other human needs in Maslow's hierarchy. It is quite possible, then, that Maslow's characterization of "creativeness" as an essential aspect of peak level human flourishing may not be culturally generalizable beyond the specific individualistic culture and historical period of social upheaval in which Maslow worked. The broad possibilities of cultural variation in what constitutes human flourishing remain largely unexplored.

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Self-Actualizing Self

- [Self-Realization \(Horney\)](#)

Self-Aggrandizement

- ▶ [Self-Enhancement Bias](#)
-

Self-Alienation

- ▶ [Neurotic Pride \(Idealized Image\) and Neurotic Self-Hate](#)
-

Self-Appraisal

- ▶ [Self-Concept](#)
 - ▶ [Self-Esteem](#)
-

Self-Appraisals

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Synonyms

[Self-assessment](#); [Self-evaluation](#)

Definition

Self-appraisal is the process by which people evaluate their traits, abilities, attitudes, behavioral tendencies, and outcomes in the service of constructing and maintaining identity.

Introduction

The self and identity literature is rich with empirical evidence regarding the processes by which people appraise the self and construct a sense of identity. The current article provides a brief overview of this literature by first discussing the different roles played by distinct motivational

influences on the self-appraisal process, specifically, the distinct roles of self-assessment, self-verification, and self-enhancement. Next, the distinction between *instrumental* and *social self-analysis* is introduced in order to highlight the unique contributions to the self-appraisal process made by self-focused interpretations of (1) one's own thoughts, feelings, and behavior and (2) interpersonal or social comparison feedback. Particular emphasis is placed on the role of self-enhancement motives in guiding self-evaluation.

Self-Appraisal Motives

Strategic motivational interests significantly shape self-appraisal and social judgment. Although numerous motivations guide self-appraisal, three of the most fundamental are the needs for *self-assessment*, *self-verification*, and *self-enhancement* (Sedikides and Strube 1997). *Self-assessment* is the motive to seek diagnostic information about the self in the service of accurately assessing one's personality, skills, and abilities. *Self-verification* is the motive to seek feedback that verifies one's existing self-views once coherent self-conceptions are constructed. Finally, *self-enhancement* is the desire to seek feedback that places the self in the most favorable light possible given the constraints of reality. That is, self-enhancement is the desire to see the self positively and the tendency to focus disproportionately on self-relevant feedback that is flattering rather than maligning.

One could reasonably argue that, of these three motives, the self-assessment motive is the most adaptive. Being able to *accurately* discern one's strengths and weaknesses should provide a host of developmental benefits. Yet, when assessment, verification, and enhancement motives are pitted against one another, self-enhancement emerges as the most powerful influence on self-appraisal. When given the opportunity to learn the degree to which one possesses various positive or negative personality characteristics, people seek diagnostic and confirmatory feedback about whether they possess important *positive*

characteristics, but avoid doing so for equally important negative characteristics (see Sedikides and Strube 1997). Importantly, the prioritization of self-enhancement does not appear to be detrimental to the self, but is associated with a variety of adaptive psychological and health benefits (see Sedikides and Strube 1997). Research thus suggests that self-appraisal is heavily influenced by strategic motivated interest; people's self-appraisals are typically more positive than is warranted by objective facts. Evidence supporting the preeminence of self-enhancement in driving self-appraisal is discussed in the section "[Self-Enhancement Effects](#)."

Instrumental Self-Analysis

Instrumental self-analysis refers to the process of appraising the self based on the reflexive, inward evaluation of one's thoughts, feelings, and behaviors in relation to the surrounding environment (Alicke et al. 2013). Such analysis does not involve comparisons to other people, but rather reflects the appraisal of one's own abilities, attitudes, or dispositions by merely turning consciousness inward and interpreting one's successes and failures, behavioral propensities, and emotional reactions to events. Several theories within the identity formation literature elaborate on the nature of such instrumental self-analysis. Self-perception theory (Bem 1972) asserts that, particularly in domains for which we do not hold strong pre-existing self-beliefs, individuals appraise their preferences, abilities, or dispositions by merely discerning their own behavior much like an outside observer would and then evaluating the self based on this observation. Likewise, self-awareness theory (Duval and Wicklund 1972) argues that conscious awareness can be focused either internally or externally on the surrounding environment. When focused inward, this self-awareness naturally elicits comparisons of one's present state to his or her personal goals and standards, with the outcome having a myriad of behavioral, cognitive, emotional, and motivational consequences. These theories and others firmly establish instrumental

self-analysis as an important component of the self-appraisal process.

Social Self-Analysis

Social self-analysis refers to the process of constructing and maintaining personal identity through interactions with and comparisons to others in the social environment (Alicke et al. 2013). It is the foundation of identity formation and maintenance, contributing more to self-appraisal and self-understanding than instrumental self-analysis. Fundamental to social self-analysis is the process of social comparison (Festinger 1954), which involves selecting a comparison target against which to compare one's characteristics, abilities, attitudes, or behaviors, interpreting the outcome of this comparison test, and then generalizing the results to one's self-concept. Below some historical forerunners to contemporary social self-analysis are discussed, followed by discussion of the central mechanisms known to guide social self-appraisal.

Historical Roots

A historical timeline for social self-analysis dates back to Cooley's (1902) research on the "looking-glass self." Cooley (1902) argued that self-evaluation is fundamentally shaped by the way a person believes they are perceived or appraised by those around them. These "reflected appraisals" are formulated by gauging how others outwardly respond to one's behaviors and comments (Cooley 1902) and by trying to take the place of others in an attempt to discern how we are perceived from their vantage point (Schrauger and Schoeneman 1979). This early work laid the foundation for the notion that identity formation is largely a socially oriented process.

Following Cooley's (1902) seminal work, Festinger (1954) elaborated on the social element of self-appraisal with his influential *social comparison theory*. Festinger (1954) argued that people's desire to maintain stable and accurate self-views motivates them to seek informative feedback about their characteristics and abilities. However, because such feedback is

not always available, it is necessary to gain self-insight by comparing one's attributes, skills, and behaviors to those of others in the social environment. Importantly, in its initial conceptualization, social comparison theory asserted that diagnosticity was the primary motive driving comparison tests, and as such comparing oneself with similar others was prioritized. Festinger's (1954) theory served as a springboard for the systematic study of social comparison processes and continues to provide a framework for understanding social self-analysis and its implications for self-appraisal.

Contemporary Extensions of Social Self-Analysis

One basic distinction now prevalent in the social comparison literature involves the direction of comparison tests (Alicke et al. 2013). *Lateral comparisons* involve comparing one's abilities, outcomes, or characteristics to those of a target that is perceived to be similar to oneself on dimensions relative to the judgment. This type of comparison is most consistent with the form originally proposed by Festinger (1954), as comparisons with similar others represent the best opportunity for diagnostic feedback. For example, a first grader trying to ascertain his painting abilities would best be served by comparing his paintings to those of another, equally practiced first grader. *Downward social comparison* involves evaluating one's standing on a particular dimension to that of an inferior, less well-off target. This could manifest as the same first grader comparing his artwork to that of a kindergartner rather than a same-aged peer. Finally, *upward social comparison* involves comparing one's skills, attributes, or outcomes to those of a superior target, such as a first grader comparing his watercolor masterpiece to the priceless works of Monet. Whether a person elects to engage in lateral, downward, or upward social comparison often depends upon the initial impetus for the comparison, such as the need to self-enhance (downward) or the search for inspiration (upward). Finally, although most comparison tests involve comparing oneself to a particular person or standard, some appraisals involve comparing the self to some hypothetical or aggregate target (e.g., "the typical student," "your average peer").

The various *effects* of social comparison on self-appraisal have also been extensively studied. Social comparison typically produces either assimilation or contrast effects for self-evaluation (Mussweiler 2003). Contrast effects occur when self-judgments are displaced away from a comparison standard (the target person or aggregate that one is comparing oneself to), whereas assimilation effects occur when self-evaluations are shifted in the direction of the target following the comparison process. One primary predictor of whether assimilation or contrast occurs following social comparison is whether standard-similar or standard-dissimilar self-knowledge is activated during the comparison process (Mussweiler 2003). Comparisons that activate self-knowledge highlighting similarities between the self and the comparison standard will typically yield evaluative assimilation. However, when self-knowledge emphasizing the self's *dissimilarities* from the comparison standard is activated during the comparison process, evaluative contrast is likely to occur. Whether assimilation or contrast is ultimately the preferable outcome depends upon the direction of the comparison test. In the case of upward comparisons, assimilation results in self-appraisals being elevated more positively than they would have been in the absence of the comparison, while contrast effects produce a deflation in self-evaluation. Following downward comparisons, however, evaluative contrast results in more favorable self-appraisal, as assimilation results in self-evaluations being pulled downward toward the inferior target.

Local Dominance

In many instances of self-appraisal, people are afforded *multiple* comparison data points on which to base their self-evaluations, and these data often vary in their concreteness and closeness to the self. For example, a college applicant could compare her ACT score to that of a close friend, the average of her graduating class, or to the national average. Research has shown that when presented with comparison feedback along this local-general continuum, local comparison feedback (the score of a friend, high school average) impacts self-appraisals to a greater extent than more general, aggregate comparison data

(Zell and Alicke 2009). Interestingly, this *local dominance effect* occurs even though (a) people recognize that the aggregate data is more diagnostic than the smaller, local comparison sample, and (b), at times, the effect is self-critical rather than self-enhancing (i.e., the dismayed Ivy League student whose MCAT score was merely average at her institution, but at the 75th percentile nationwide). The local dominance effect is believed to be the byproduct of people's habitual comparison tendencies – people most typically use close relatives, friends, or group affiliates as references for self-appraisal, perhaps making such local comparisons the automatic default during social self-analysis. Overriding this tendency requires an additional, effortful inferential step that people register less efficiently during self-evaluation (Zell and Alicke 2009).

Self-Enhancement Effects

Evidence supporting the primacy of self-enhancement during self-appraisal is ubiquitous in the self and identity literature. With regard to instrumental self-analysis, research has shown that people limit the processing of threatening self-relevant feedback, thereby remembering it less effectively, but demonstrate enhanced (even distorted) recall of experiences that place the self in a favorable light; people are highly skeptical of feedback that defies their preferences, but readily accept preference-consistent feedback without pause; tasks at which one succeeds are eagerly figured into self-appraisals, while tasks at which one fails are perceived as less relevant to one's self-conceptions; finally, people even perceive their physical attractiveness more positively, yet less accurately, than what peer evaluations objectively warrant (for a review, see Sedikides and Strube 1997).

Strategic motivational interests exert an equally prevalent impact on social self-analysis. Under times of self-threat, people routinely select downward comparison targets to ensure a favorable comparison outcome and may even avoid social comparison altogether if one feels the outcome will end unfavorably for the self. People also selectively choose relationship partners who excel in domains other than those that are

important to the self, thus avoiding potentially negative comparisons in central self-domains (for a review, see Sedikides and Strube 1997). By contrast, individuals searching for inspiration or reassurance often seek upward comparison targets with whom they can relate (thereby eliciting assimilation; Taylor and Loebel 1989). Self-enhancement also influences comparison tests with hypothetical, aggregate standards. For instance, people routinely believe they possess more positive characteristics but fewer negative traits than their average peer; they appraise their likelihood of experiencing positive life events to exceed that of their peers, but their chances of experiencing misfortune to be lower than their peers, and, lastly, people routinely evaluate themselves as morally superior to others, even when objective data suggest that such appraisals are unwarranted (for a review, see Alicke et al. 2013).

Conclusions

Empirical understanding of the processes guiding self-appraisal has advanced significantly over the past century. Self-appraisal is more strategic than objective, operating against the backdrop of self-enhancement, self-verification, and self-assessment concerns, and is shaped by both reflexive evaluation of one's own thoughts and behaviors and one's interactions with and comparison to others.

Cross-References

- ▶ Identity
- ▶ Self-Knowledge

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Self-Assessment

► Self-Appraisals

Self-Assessment Manikin

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Definition

The Self-Assessment Manikin (SAM) is a picture-oriented questionnaire developed to measure an emotional response (Bradley and Lang 1994). The questionnaire is designed to measure three features of an emotional response that have been identified as central to emotion in research conducted by Lang and colleagues (Lang et al. 1993). Specifically, there are single-item scales that measure valence/pleasure of the response (from positive to negative), perceived arousal (from high to low levels), and perceptions of dominance/control (from low to high levels).

Introduction

Several theorists have explained human emotions as responses to environmental challenges that increase the individual's likelihood of survival. While there is ongoing debate regarding what the defining features of an emotion are, emotions can be broadly conceptualized as “adaptive action tendencies that occur in response to changes inside or outside the organism, specifically changes that challenge states and systems necessary for survival” (p. 25; Keil and Miskovic 2015). Emotions can be measured across at least three different modes of response: physiological, cognitive, and behavioral (Lang 1985). Within this broad approach to defining emotion, there are at least two major perspectives adopted for more specifically understanding emotions. The first approach can be referred to as a “discrete emotions” perspective. Within this perspective, emotions are generally thought to be specific, cross-cultural, innate, systemic responses (Ekman 1992). For example, fear can be thought of as a discrete emotion that across cultures is characterized by elevated physiological arousal, perceived threat, and escape behavior (Barlow 2002). In contrast to the discrete emotions perspective, the dimensional perspective suggests that emotions are responses to environmental stimuli that vary along dimensions of key features or characteristics. Within the dimensional perspective on emotion, theory and empirical work has converged to suggest at least three core features to an emotional response (i.e., valence/pleasure, arousal, and dominance/control; Osgood et al. 1957). These dimensions are theorized to respond somewhat independently resulting in dimensions that can differentially respond across time to emotion eliciting events (Mehrabian and Russell 1974).

History and Structure

Self-reports are commonly used to measure the three dimensions of an emotional response. Prior to the SAM, the Semantic Differential Scale (SDS; Mehrabian and Russell 1974) was a widely

used measure for measuring valence, arousal, and control. However, with this measure came significant limitations, including a laborious data set that was cumbersome to analyze and was difficult to use with individuals who were non-English speakers (Bradley and Lang 1994).

In order to address limitations of previous dimensional measures of emotion, Lang (1980) devised the SAM to assess an emotional response to an object or event. The SAM is a picture-oriented instrument containing five images for each of the three affective dimensions that the participant rates on either a 9- or 21-point scale. While the SAM instrument was initially administered via computer and uses a 21-point scale, a pencil-and-paper version also exists that has respondents place an “X” either on or between each of the five figures (resulting in a 9-point scale). The meaning of each scale is described to respondents, and they are asked to place the “X” on a figure (or between figures) that best represents how they currently feel. Valence is depicted from positive (a smiling figure), to neutral, to negative (a frowning figure). Arousal is depicted ranging from high arousal (eyes wide open) to low arousal (eyes closed). The arousal scale, using these same figures, also depicts the intensity of arousal with additional imagery over the abdomen area that ranges from high intensity (imagery representing an explosive-like burst) to low intensity (imagery representing a small pin prick). Finally, dominance/control ranges from feeling controlled or submissive (a very small figure) to feeling in control or dominant (a very large figure; Morris 1995). Correlations between the original SDS and SAM were obtained for valence (.94), arousal (.94), and dominance (.66).

Applications

The SAM is an imagery-based measure that therefore can be thought of as language-free. Thus, use of the SAM is not circumscribed to any one culture, and it can be easily understood and appropriate for use in different countries (Bradley et al. 1992). Similarly, the SAM can be administered effectively with both children and adults (Lang

1985) as well as various clinical populations (Bradley and Lang 1994).

Another feature of the SAM that makes it widely applicable is that it is brief. Due to its brevity, it can be used to capture emotional responses to a wide array of emotion elicitation methods. For example, it has been used before and after biological challenges (e.g., Feldner et al. 2003) to measure how emotional state changes in response to these procedures. As a second example, the SAM has been used to measure emotional state in numerous advertising studies (Morris et al. 1994). The SAM is typically used to measure emotional states (Meagher et al. 2001). To the best of our knowledge, a version of the SAM designed to measure emotion-related traits (e.g., frequent experiences of elevated arousal) has not been developed.

Conclusion

Overall, the SAM is a brief and nonverbal measure of emotional state that has been used across a variety of settings with various populations (e.g., gender, age, race; Bradley et al. 1992; Lang 1985). The SAM is based on dimensional models of emotion and therefore measures key dimensions of emotional responding.

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Self-Awareness

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Synonyms

[Objective self-awareness](#); [Self-consciousness](#); [Self-focused attention](#); [Self-reflection](#)

Definition

For children, self-awareness begins as a rudimentary understanding that one is separate from the environment. In older children and adults, self-awareness is a psychological state where attention

is focused inwardly, toward one's self-concept. Self-awareness has many consequences for thoughts, feelings, and behavior.

Introduction

Self-awareness is notoriously difficult to define, as are many elusive self-related terms. "Self-awareness" often reflects several types or levels of self-awareness that include: a basic sense that one is separate from the outside world, a sense of bodily self-awareness where people (and some animals) can recognize themselves in mirrors, and a more advanced form of self-awareness, where someone can turn attention inwards toward an elaborate self-concept.

While self-awareness means many things to many researchers and theorists, most agree that it develops and changes over the course of childhood, has levels, and leads to many emotional, behavioral, and cognitive consequences. People sometimes avoid self-awareness, sometimes seek out self-awareness, accidentally become self-aware, and occasionally, lose the ability to be self-aware. This entry will focus on human self-awareness and emphasize the level of self-awareness that occurs in most adults (objective self-awareness).

History

William James (1892/2001) did not use the term self-awareness, but he was the first psychologist to discuss the self in detail. James made an important distinction between the I and the Me. The I is an elusive but important aspect of the self. It is consciousness that a person's self is continuous throughout life. The I enables people to realize that they have a past, present, and future that are all a part of the same core person. James likens the I to the soul. This aspect of James' theory is closely related to consciousness and self-awareness.

The Me is similar to what most modern psychologists refer to as the self-concept. It contains the contents of one's actual self and

aspirations for the self (idealized selves, goals, and standards). James states, “This collection (of self-information) can at any moment become an object to my thought at that moment and awaken emotions like those awakened by any of the other portions of me” (1892/2001, p. 48). This statement implies that people can take the Me as an object of attention.

The implication of self-awareness is seen again in his discussion of self-esteem, which is an overall evaluation of one’s self. When people compare their pretensions (expectations) to their current state of success (or failure), they form an overall positive or negative evaluation of the self. If the evaluation is positive, people feel positively about themselves. If the evaluation is negative, they feel negatively about themselves. This evaluation process strongly implies that humans can pay attention to current and future selves for comparison, and the comparison has ramifications for self-esteem.

The ideas of the I and Me, attention to current self and possible selves, and self-evaluation occur many times throughout the history of Psychology. For example, Cooley (1902) and Mead (1934) discussed humans’ ability to reflect upon the self as an object. They posited that as children (and later as adults), we are encouraged, rewarded, criticized, and punished for particular behaviors. These desired qualities and behaviors are gradually internalized as our own goals, perspectives, and standards of the self. Eventually, we do not need input from parents, friends, or other people. We are able to take the perspective of others in order to judge ourselves.

Development

The mirror self-recognition task is often considered the test of self-awareness. It was designed to measure the self-awareness of chimpanzees by Gallup (1970), but was soon adapted for research with children. The test consists of placing a mark or post-it note on a child’s face, placing the child in front of a mirror, and watching to see if the child then looks at his or her reflection and tries to remove the mark from his or her face instead of

the face in the mirror. About 90% of children successfully pass this test by their second birthday (Amsterdam 1972). This task is widely used in research with both humans and nonhuman animals (Gallup et al. 2002).

While not perfect (e.g., Broesch et al. 2011), the mirror test is an indicator that some sort of self-awareness occurs. In order to successfully complete the test, the children must compare an internalized representation of their appearance to their current appearance. When the children realize something is different, they attempt to change their appearance to what is normal to them (Keenan et al. 2001). Rochat (2003) posits that mirror self-recognition is a sign that a child has entered into an era of explicit bodily self-awareness, when he or she begins to analyze a basic concrete self-concept.

Before mirror self-recognition occurs, a child is not without self-awareness, but has a lower level of awareness, often referred to as subjective self-awareness (Duval and Wicklund 1972) or implicit self-awareness (Harter 2014; Rochat 2003). Even newborns are aware that they are separate from the environment and people around them. Researchers have demonstrated this through research concerning the rooting reflex. Normal, healthy infants will move their face toward a touch on their cheek. However, this reflex is diminished or absent when the infant touches his or her own cheek. Infants also show a sense that they understand their bodily limitations. Before children can sit on their own (around 6 months), they typically will only reach for objects that they can reach without falling over (Rochat 2003).

Piaget (1966) suggested self-consciousness (self-awareness) is not possible until children are able to overcome egocentrism (beginning around age 5). Egocentrism is an element of early childhood (sensorimotor and preoperational stages) that is the inability to understand another person’s point of view. In a classic study, children sat at a table with a three-dimensional mountain in front of them and an adult sitting at the opposite side of the table. When asked what the adult could see, the children believed that the part closest to them was also what was closest to the person sitting on the opposite side of the table.

This ego-centric behavior stops as children begin to understand that not everyone sees what they see, feels as they do, likes the same things they do, or has the same opinion that they do. It is through a series of interactions with others in which conflicting opinions become the focus of attention that perspective taking begins. With time, conflicts are no longer necessary for self-awareness, and introspection emerges. In other words, as children (and eventually adults) continue to understand themselves and who they are and want to be, self-awareness continues to evolve from rudimentary perspective taking to an internalized ability to judge themselves based on internalized standards (Duval and Wicklund 1972).

Others have also made the argument that the ability to reflexively think about and compare the self to ideals does not occur until around ages 8–11. This is the age when egocentrism has been more fully resolved (Harter 2014; Keenan et al. 2011; Rochat 2003). During this age range, integration and internalization of goals and opinions increase. This allows children to criticize or judge themselves without direct feedback from anyone or anything in the environment. The more complex, internalized self-concept continues to grow in abstraction and complexity throughout adolescence. By early adulthood, most humans have a highly complex, occasionally contradictory, abstract sense of self, full of goals, standards, values, and personal beliefs.

Self-Awareness and the Brain

Social Neuroscience is a new area of investigation within Psychology, and little can be said with certainty about the relationships between particular brain-area functioning and its observable correlates. Exactly which areas of the brain are involved in self-awareness is speculative, but activity in some areas is repeatedly correlated with self-awareness and related properties. One is the prefrontal cortex, especially the right prefrontal cortex (see Carver 2014; Keenan et al. 2011; Stuss and Alexander 2000; Van der Meer et al. 2010). Within the prefrontal cortex, the

medial prefrontal cortex, the posterior cingulate cortex, and the anterior cingulate cortex are frequently indicated in self-related processes. Specifically, self-recognition is correlated with activity in the inferior frontal gyrus and the inferior parietal as well as the anterior cingulate cortex (Keenan et al. 2011; Van der Meer et al. 2010). Self-evaluation is correlated with activity in the medial prefrontal cortex (Keenan et al. 2011).

Research with autism spectrum disorder and schizophrenia (with little or no insight) indicates lowered activation of the frontal lobes, which supports the theory that self-awareness and perspective taking are housed in the frontal cortex (Van der Meer et al. 2010). People with brain damage in the areas associated with self-awareness and other self-related processes can lose the sense of self, but at least one patient who suffered damage to nearly all of the previously mentioned regions of the brain associated with self-awareness has not lost the ability to be self-aware (Philippi et al. 2012). Research from traumatic brain injuries (TBI) has found that people with minor but diffuse brain damage (not necessarily within the frontal lobes) can also lose self-awareness. Much of the TBI research indicates that self-awareness involves many areas within the brain and the connections between brain regions (Sherer and Fleming 2014). In short, psychologists and neuroscientists are still unsure of what causes self-awareness in the brain. However, research is evolving and ongoing in this area and may bear more stable and accurate fruit in the near future.

Does Self-Awareness Have to Be Conscious?

All of the literature reviewed thus far assumes that self-awareness is a conscious experience. Recently, however, researchers found evidence that self-awareness can occur without the conscious experience of self-awareness. Subliminally priming someone's first name seems to increase self-awareness as measured by classic measures of self-awareness (Silvia and Phillips 2013, pretest). Furthermore, subliminally priming one's

first name increased goal directed behavior (Silvia and Phillips 2013) and increased cardiovascular effort during goal directed behavior (Silvia 2012). The effects of subliminally priming self-awareness were similar to explicitly priming self-awareness with mirrors or cameras. This research may lead to further investigations of implicit self-awareness and self-regulation processes.

Before this evidence of unconscious self-awareness, other self-researchers explored whether there is an unconscious side of the self that contains unconscious knowledge and evaluations about the self (Paulhus 1993). The unconscious self can perform self-presentation, self-evaluation, self-regulation, and affective regulation without conscious awareness (Greenwald and Banaji 1995; Koole and Coenen 2006; Koole et al. 2001). Recently Koole and Coenen (2006) found that implicit self-priming lead to increased intuitive (automated) affect regulation, but self-priming did not have effects on conscious processes. This research indicated that implicit self-knowledge and evaluations may affect other implicit processes such as affect regulation.

Further research is needed to see the full extent of unconscious self-processes (including self-awareness and self-knowledge) and whether unconscious and conscious self-processes interact. It may be possible that humans have the capacity to become self-aware and self-regulate at both the unconscious and conscious levels (See Carver and Scheier 1981, 1998 and Duval and Silvia 2001 for discussions on this possibility).

Objective Self-Awareness Theory

Objective self-awareness theory (OSA; Duval and Silvia 2001; Duval and Wicklund 1972) proposes that people direct attention either toward the environment, creating a state of subjective self-awareness, or toward themselves, creating a state of objective self-awareness. This dichotomy is based on the arguments of psychologists such as Mead (1934), who discussed humans' ability to reflect upon the self or focus on their environment; Wylie (1968), who distinguished between self as doer and self as a passive entity; and Piaget

(1966), who suggested self-consciousness is characterized by the realization that one's point of view is fallible. Objective self-awareness is the opposite of egocentrism, a state where a child (or adult) does not have his or her own point of view or thinks his or her point of view is ubiquitous.

Self-awareness can be deliberately or automatically initiated. Automatic self-awareness is created by reminding individuals of themselves (Duval and Wicklund 1972) or self becoming figural to the background environment (Duval and Silvia 2001). Self is figural when it is different (inconsistent) from its surroundings, which can be the social context, physical environment, or previous experiences of the person. For example, objective self-awareness likely occurs when someone is the only dissenter in a large group, stands at the bottom of the Grand Canyon, or does something that he or she has not attempted before. Common methods of creating self-awareness in the lab reflect this figure-ground representation of self-awareness. For example, viewing oneself in a large mirror gives the appearance of self as figural among the surroundings in a lab room (Duval and Silvia 2001).

OSA theory states that we have mental representations of self and standards. Self is a representation of whom a person is currently, and standards are representations of correct behavior, attitudes, and traits. Standards develop in situations of uncertainty where the uncertainty is reduced by an expert. The expert's uncertainty-reducing opinion or behavior is generally adopted as a standard of correctness (Duval and Wicklund 1972).

When objectively self-aware, an automatic comparison of self and standard occurs. The preferred state of this comparison system is self-standard congruity. If individuals either fail to meet or exceed their standards, a discrepancy exists and negative affect occurs. If individuals meet their standard or progress toward it, positive affect occurs.

Research generally supports the relationship between discrepancies and emotions. For example, in one classic study by Ickes et al. (1973), participants were told that they were high or low

in a desirable personality trait called surgency. Those who supposedly tested high in surgency reported relatively high self-esteem, while those who supposedly tested low in surgency reported relatively low self-esteem. More recent studies have replicated the relationship between self-goal discrepancies and affect (e.g., Mor and Winquist 2002; Phillips and Silvia 2005).

Affect from the comparison of self and standards motivates behavior. The theory's approach is similar to cognitive dissonance theory (Festinger 1957), where negative affect indicates change is necessary. If negative affect occurs, people will attempt to match the standard, change the standard to match their behavior, or avoid self-awareness based on their attributions for failure and perceived ability to improve. If positive affect occurs and the standard has been met, people stop discrepancy reduction efforts. If positive affect occurs and the standard has not been met, people continue their current behavior until they meet the standard.

Research generally supports the theory's predictions concerning behavior. Whether people choose to change self or standard to reduce discrepancies seems to depend on attention at the time of the discrepancy. If attention is focused on the standard of correctness, people will most likely change their standard. If attention is focused on the individual's behavior, he or she will change their behavior to meet the standard (Duval and Silvia 2001). If discrepancy reduction is not possible, then people avoid self-awareness (Duval et al. 1992; Greenberg and Musham 1981).

Control Process Theory

Carver and Scheier's (1981, 1998) control-process theory (CPT) was partially inspired by OSA theory, and, therefore, has many similarities. For example, CPT posits that attention can be directed to self or to the environment. Attention is drawn to self by anything that reminds someone that they are an object in the environment. This includes bodily activity such as hearing one's heartbeat and observation by another person. When attention is placed on self, current behavior

is compared with standards (goals). If a discrepancy exists between current behavior and standards, people generally act to reduce this discrepancy. Standards originate from instructions, social comparison, schemas, or other knowledge structures.

The theory was also heavily influenced by cybernetic TOTE (test-operate-test-exit) (Miller et al. 1960) systems. The preferred state of these systems is a type of homeostasis where behavior matches standards. Goal matching occurs through a cybernetic feedback loop. The typical analogy for this system is a thermostat. Once someone sets a desired temperature, a mechanism in the thermostat checks to see if the current air temperature matches the desired one. If they do not match, then the thermostat activates the air conditioning unit. The thermostat continues to check the air temperature until it matches the desired temperature. Then, the system shuts down.

In control-process theory, goals are reference values for feedback loops. Self-focus initiates comparison (test) of the current self (input) and goals. If a discrepancy exists, the person initiates behavior (operate) to reduce this discrepancy. The test function rechecks self and goals until the goal is met, the goal is changed or attention shifts from the discrepancies. Then, behavior stops (exit). Discrepancies exist when a person's current self has not met their goals. People will try to reduce any existing discrepancies if they have positive expectations. If they do not have positive expectations, they may disengage from discrepancy-reducing behavior. If this is not possible, they may disengage mentally from the situation by daydreaming, etc., or partially disengage from behavior by lowering or changing their goals.

Predictions concerning behavioral responses to discrepancies have been supported in the literature. For example, the importance of expectations in behavior was demonstrated in a study by Carver et al. (1979). The experiment created a situation in which all participants failed an initial task and were provided with an expectancy that their performance could improve quickly or not. When asked to complete a second task, participants who thought that they would improve persisted longer than those who thought that they would not

improve. In other words, participants with negative expectations withdrew (physically by leaving the task) from the situation earlier than those with positive expectations. No studies to date, however, have been able to tease apart whether emotion motivates such behavior, or if behavior is determined solely by a cybernetic TOTE loop.

Feedback loops can be discrepancy minimizing or discrepancy enlarging. The goal of a discrepancy minimizing loop is to match behavior to a desirable standard (approach goal). The goal of a discrepancy enlarging loop is to distance behavior from an undesirable standard (avoidance goal). Carver and Scheier (1998) noted that discrepancy enlarging TOTE loops (involving avoidance goals) and reducing loops (involving approach goals) have different emotional consequences. Exceeding a standard rate of progress toward a goal in a discrepancy reducing loop results in happiness, but falling below the standard rate results in dejection (i.e., sadness). Discrepancy enlarging loops are related to anxiety and agitation. Exceeding a standard rate of progress in a discrepancy enlarging loop results in calmness (the opposite of agitation), but falling below the standard rate results in agitation (i.e., anxiety). In CPT, happiness, dejection, calmness, and anxiety serve as information to speed up or slow down behavior.

CPT's predictions concerning emotions were tested by Lawrence et al. (2002). Participants completed a task in which they were asked if foreign words meant the same thing as English words. Participants were randomly assigned to have low or high rates of improvement on the task (the task was bogus). People in the low rate of improvement condition reported the highest level of negative affect, and people in the high rate of improvement condition reported the highest level of positive affect. Unfortunately, the ultimate task score was confounded with rate of improvement. Participants in the low rate of improvement condition saw their scores go down, and participants in the high rate of improvement condition saw their scores go up. In at least one correlational study, the rate of improvement did impact emotional reaction (Phillips 2006). The predictions concerning emotion in CPT merit further investigation.

Self Guides

Self-discrepancy theory (SDT; Higgins 1987) proposes that people have ideal and ought self-guides. The ideal self is a representation of whom the person would like to ultimately become. The ought self is a representation of whom a person feels that he or she should or ought to become. Discrepancies between the current self-concept (actual self) and the ideal self lead to dejection/depression-related emotions. Discrepancies between the current self-concept and the ought self lead to agitation/anxiety related emotions.

The proposed relationships between self-discrepancies and specific emotions are supported by some research but can be elusive without mediating and moderating variables (see Higgins et al. 1986). One of the most powerful moderators is self-awareness. Participants who were asked about discrepancies and emotions under high self-awareness conditions had a much higher correlation between discrepancy size and negative affect (Phillips and Silvia 2005).

Conclusion

Self-awareness has been a topic of interest since (at least) the time of the ancient Greek philosophers and has been a hot topic in psychology for most of the field's history. The body of existing research and theory in the field is now quite large but remains incomplete. As psychologists endeavor to further understand the phenomena and answer questions about it, more questions and areas of inquiry emerge. The adventure of understanding will continue.

Cross-References

- ▶ [Identity](#)
- ▶ [Self-Actualization](#)
- ▶ [Self-Concept Content](#)
- ▶ [Self-Consciousness](#)
- ▶ [Self-Discrepancies](#)
- ▶ [Self-Reflection](#)
- ▶ [Self-Regulation](#)

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Self-Beliefs

- ▶ [Self-Concept Content](#)

Self-Beliefs in School Curriculum Domains

- ▶ [Academic Self-Concept](#)

Self-Care

- ▶ [Self-Compassion](#)

Self-Compassion

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Synonyms

[Self-acceptance](#); [Self-care](#); [Self-kindness](#); [Self-love](#); [Self-worth](#)

Definition

Self-compassion involves relating to oneself with care and support when we suffer. Neff (2003b)

defines self-compassion as consisting of three central components: self-kindness versus self-judgment, common humanity versus isolation, and mindfulness versus overidentification. These elements combine and mutually interact to create a self-compassionate frame of mind when encountering personal mistakes, perceived inadequacies, or various experiences of life difficulty. Self-kindness entails being loving, gentle, and understanding toward oneself and involves actively soothing and comforting oneself in times of struggle. This response stands in contrast to a self-critical approach in which one judges or blames oneself for not being good enough or for not coping well enough with life challenges. Self-compassion involves framing one's experiences of imperfection in light of the shared human experience, accepting that all people struggle in some form or another. Rather than seeing oneself as a separate, unworthy individual, self-compassion involves recognizing that one's experience of imperfection is connected to the experience of imperfection shared by all humanity. Instead of feeling cut off and isolated from others in times of loss or failure, self-compassion fosters a deep sense of belonging. Finally, self-compassion entails a balanced, mindful response to distress that neither stifles and avoids nor amplifies and ruminates on uncomfortable emotions. Rather than running away with the narrative or storyline of one's problems and shortcomings, self-compassion involves maintaining equanimity in the face of unpleasant experiences, opening up to life as it is in the present moment. Compassion can be extended toward oneself when suffering occurs through no fault of one's own – when the external circumstances of life are simply painful or hard to withstand. Self-compassion is equally relevant, however, when suffering stems from one's own mistakes, failures, or personal limitations.

Introduction

While compassion is extolled as a virtue in Western culture, people are often skeptical of self-compassion and tend to be much less kind to themselves than they are to others (Neff 2003a).

Although self-compassion is sometimes confused with self-pity, self-indulgence, and an excuse for passivity, self-compassion is actually the antithesis of these ways of being. Self-compassion allows one to meet life with an open-hearted stance in which the boundaries between self and other are softened so that all human beings are considered worthy of compassion, including oneself. This allows for greater emotional resilience and psychological well-being. Western psychologists have only recently become interested in self-compassion, although the construct is central to the 2,500-year-old tradition of Buddhism. Interest in self-compassion has also been fueled by a larger trend toward integrating Buddhist constructs such as mindfulness with Western psychological approaches, exemplified in interventions such as Mindfulness-Based Stress Reduction. While mindfulness has received more research attention than self-compassion, research on the latter construct is growing at an exponential rate. It should be noted that mindfulness and self-compassion are intimately linked, however. Mindfulness refers to the ability to pay attention to one's present-moment experience in a nonjudgmental manner. Self-compassion entails holding negative self-relevant emotions in mindful awareness but also involves generating feelings of kindness toward oneself and insight into the interconnected nature of the human experience.

Methods of Researching Self-Compassion

Most research on self-compassion has been conducted using a self-report measure developed to facilitate research on the construct called the Self-Compassion Scale (Neff 2003a). The scale has been translated into several languages including Dutch, French, German, Greek, Turkish, Italian, Portuguese, Brazilian Portuguese, Spanish, Japanese, Korean, Chinese, and Farsi. The scale can be used to measure overall self-compassion levels, given that approximately 90% of item variance can be explained by a general self-compassion factor (Neff et al. 2017). However,

the six subscales of self-kindness, self-judgment, common humanity, isolation, mindfulness, and overidentification can also be examined separately. Increasingly, researchers are also using methods like temporarily inducing a self-compassionate mood, observing the level of self-compassion displayed in behavior, as well as short-term and long-term self-compassion interventions as a means of examining the impact of self-compassion on well-being, with findings tending to converge regardless of the particular method of study used.

Self-Compassion and Well-Being

Although self-compassion is focused on the alleviation of suffering, it can be considered a positive psychological strength. Self-compassion is an important source of eudaimonic happiness, which involves finding purpose and meaning in one's life rather than pursuing pleasure and avoiding pain. Self-compassion does not avoid pain but rather embraces it with loving kindness and goodwill, generating a sense of well-being that is rooted in the experience of being fully human. In this way, self-compassion is reminiscent of Abraham Maslow and Carl Rogers' conceptions of a healthy person, which emphasize unconditional self-acceptance and ambition to reach one's full potential. It is also an important inner resource that helps individuals to find hope and inner strength when faced with the difficulties of life.

One of the most consistent findings in the research literature is that greater self-compassion is linked to less depression, anxiety, and stress. In fact, a meta-analysis (MacBeth and Gumley 2012) found a large effect size when examining the link between self-compassion and psychopathology across 20 studies. Self-compassionate people are also less likely to ruminate on their negative thoughts and emotions or suppress them compared to those low in self-compassion. Interestingly, time-lag analyses suggest that among depressed people, greater self-compassion predicts fewer depressive symptoms but depressive

symptoms do not predict self-compassion (Krieger et al. 2016). In addition to reducing negative mind states, self-compassion appears to reinforce positive states. A recent meta-analysis (Zessin et al. 2015) examined how self-compassion relates to both positive and negative well-being and found a medium effect size across 79 samples. For example, self-compassion is associated with feelings of life satisfaction, happiness, wisdom, optimism, gratitude, curiosity, creativity, and positive affect. Self-compassion is also associated with greater emotional intelligence, suggesting that self-compassion represents a more perceptive way of dealing with difficult feelings. By meeting one's suffering with the warm embrace of self-compassion, positive feelings are generated at the same time that negative emotions are alleviated. Self-compassion also appears to be an important source of coping and resilience in the face of various life stressors such as divorce, chronic pain, or combat exposure (see Neff and Seppala 2016 for a review).

Self-Compassion and Self-Esteem

In many ways, self-compassion is a useful alternative to the construct of self-esteem, providing similar psychological health benefits while avoiding its more problematic aspects (see Neff 2011 for a review). The pursuit of high self-esteem is often associated with inflated and inaccurate self-concepts, making self-improvement difficult. Individuals may put others down in order to feel better about themselves, with high rather than low self-esteem being associated with narcissism and prejudice. High self-esteem is also associated with anger and aggression toward those perceived to threaten the ego. Because self-esteem may be contingent on success in particular domains, it tends to falter in failure situations, leading to unstable feelings of self-worth. In contrast, self-compassion is not based on self-evaluations, social comparisons, or personal success. Rather, it stems from feelings of human kindness and understanding in the face of life's disappointments. For this reason, self-compassion does not require feeling "above

average" or superior to others and provides emotional stability when confronting personal inadequacies. Self-compassion displays a moderate correlation with self-esteem, as should be expected given that both constructs tap into positive self-affect. However, self-compassion is a stronger predictor of healthy self-relating than self-esteem, including more stable and less contingent self-worth, less narcissism, anger, social comparison, and public self-consciousness.

Self-Compassion and Motivation

A common reason people are not more self-compassionate is because they believe they need to be harshly self-critical in order to motivate themselves. Research supports just the opposite conclusion (see Neff and Seppala 2016 for a review). In academic contexts, for instance, self-compassion is positively associated with mastery goals, which focus on the joy of learning for its own sake, and negatively associated with performance goals, which involve defending or enhancing one's sense of self-worth through academic performances. It is also associated with less fear of failure and the tendency to try again when failure does occur. By not harshly judging the self or blowing one's failures out of proportion, self-compassion engenders self-confidence in one's ability to learn and lessens the negative emotional impact of failure. While self-compassion is negatively related to perfectionism, it has no association with the level of performance standards adopted for the self. Self-compassionate people aim just as high but also recognize and accept that they cannot always reach their goals. In a series of four experimental studies, Breines and Chen (2012) used mood inductions to engender feelings of self-compassion for personal weaknesses, failures, and past moral transgressions. This boost in self-compassion resulted in more motivation to change for the better, try harder to learn, repair past harms, and avoid repeating past mistakes. Thus, self-compassion does not involve being passive or complacent but encourages doing one's best in order to thrive.

Self-Compassion and Health

Another common reason people are not more self-compassionate is because they believe it will encourage self-indulgence. However, self-compassion appears to promote health-related behaviors. For instance, research suggests that self-compassion is associated with behaviors like seeking medical treatment when needed, exercising regularly, and reduced smoking and alcohol use (Allen and Leary 2014). In addition to promoting healthy behaviors, self-compassion may directly enhance physical health – especially in response to stress. Research suggests individuals with higher levels of self-compassion display better immune function and demonstrate improved sympathetic and parasympathetic responses when exposed to social stressors (Arch et al. 2014). For individuals with diabetes, self-compassion provides a buffer against the negative physiological effects of distress on HbA1c, indicating better metabolic control (Friis et al. 2015). Thus, self-compassion appears to heighten both physical and mental well-being.

Self-Compassion and Body Image

The empirical literature suggests that self-compassion is linked with healthier attitudes and behaviors toward one's body. Researchers conducted a meta-analysis and completed a review of 28 studies (Braun et al. 2016). Findings suggest that self-compassion is a protective factor against eating pathology and negative body image for both clinical and nonclinical populations of women with body image concerns. For example, self-compassionate women experience less body dissatisfaction, body shame, and body preoccupation and have fewer weight worries. Self-compassion decreases disordered eating habits and promotes intuitive eating, which is a healthier alternative to the extreme and restrictive diets associated with physical and psychological distress. Breast cancer patients with higher self-compassion exhibit lower body image disturbance, and self-compassionate female athletes have lower social physique anxiety and

objectified body consciousness. Research supports self-compassion as a crucial factor in counteracting maladaptive psychological processes that undermine well-being such as body comparison, body shaming, thin-ideal internalization, self-objectification, and self-degrading body talk (Webb et al. 2016).

One study of women with body image concerns found that 3 weeks of self-compassion meditation training not only decreased body dissatisfaction but also increased body appreciation and reduced the extent to which women based their self-worth on their perceived appearance (Albertson et al. 2014). Individuals with binge eating disorder that completed a 1-day self-compassion intervention benefited from reduced eating and weight concerns and less binge eating behaviors (Kelly and Carter 2015). With self-compassion individuals can embrace and care for their bodies to feel healthy and whole.

Self-Compassion and Relations with Others

Self-compassion not only benefits the individual but also others within interpersonal relationships. Among heterosexual romantic partners, for instance, self-compassionate individuals are described by partners as being more emotionally connected, accepting, and autonomy supporting while being less detached, controlling, and verbally aggressive (Neff and Beretvas 2013). Individuals also tend to be more satisfied in their relationships if their partners are self-compassionate. Self-compassionate individuals are more likely to compromise in conflict situations with parents, friends, and romantic partners, while those lacking self-compassion tend to subordinate their needs to partners. They also experience greater psychological well-being in their relationships, feel more authentic, and experience less turmoil when resolving relationship conflict (Yarnell and Neff 2013).

While more research on this topic is needed, preliminary findings suggest that self-compassion is linked to greater forgiveness, perspective taking, altruism, empathetic concern, and decreased

personal distress in response to others' suffering (Neff and Pommier 2013). The link between self-compassion and compassion for others is not as strong as might be expected, however, because most people are much more compassionate to others than they are to themselves. Still, self-compassion appears to be an important asset for caregivers because it sustains and expands the capacity to be there for others. For instance, self-compassionate caregivers have been found to suffer less from burnout, to experience increased well-being, and to be more satisfied with their caregiving roles (Raab 2014). Additionally, self-compassion may be a protective factor for nurses by moderating the relationship between personal distress and empathetic concern with compassion fatigue. Thus, giving oneself compassion appears to provide the emotional resources needed to care for others.

Source of Individual Differences in Self-Compassion

Research shows that individual differences in levels of self-compassion are partly tied to early childhood experiences. People who lack self-compassion are likely to have critical mothers, to come from dysfunctional families, and to display insecure attachment patterns or to experience childhood trauma (Germer and Neff 2015). There also appears to be age differences in self-compassion. One study found self-compassion to increase with age and that in older adults between ages 59 and 95, self-compassion predicted psychological well-being and moderated the relationship between overall health and depression (Homan 2016). However, it appears that self-compassion offers resilience across the lifespan. For instance, after a stress test, adolescents with higher self-compassion reported greater emotional well-being and exhibited a lower physiological stress response (Bluth et al. 2016). In a longitudinal study on at-risk youth, self-compassion was found to be a protective factor for suicidality, depression, and post-traumatic stress and panic symptoms (Zeller et al. 2015). A meta-analysis (Yarnell et al. 2015) looked at gender

differences in self-compassion across 88 samples and found a small effect size. Results indicated that women have slightly lower self-compassion, and this difference is larger in samples with greater proportions of ethnic minorities. Although researchers should take this gender difference into account when designing interventions, it is important to note that this difference is quite small.

There has been a small amount of research exploring whether self-compassion levels differ across cultures. Neff et al. (2008) examined self-compassion and psychological well-being in Thailand, Taiwan, and the United States. Mean self-compassion levels were highest in Thailand and lowest in Taiwan, with the United States falling in between. In all three cultures, greater self-compassion significantly predicted less depression and greater life satisfaction, suggesting that there may be universal benefits to self-compassion despite cultural differences in its prevalence. More research in this area is needed to better understand how self-compassion is experienced across cultures.

Self-Compassion in Clinical Contexts

Self-compassion appears to be an important mechanism of action in various forms of therapy and may have important implications for understanding the therapeutic process in general (Germer and Neff 2013). Paul Gilbert has created a therapeutic approach based on evolutionary psychology called Compassion-Focused Therapy (Gilbert 2010), which helps clients develop the skills and attributes of a self-compassionate mind, especially when their more habitual form of self-to-self relating involves shame and self-attack. A recent review (Leaviss and Uttley 2015) of 14 studies found CFT to be beneficial to well-being particularly for those high in self-criticism in most cases. Acceptance and Commitment Therapy is another clinical technique that focuses on promoting psychological flexibility and self-compassion through six central processes including defusion, acceptance, attention to the present moment, self-awareness, values, and committed action (Hayes et al. 2011).

Self-Compassion Interventions

Given the demonstrated benefits of self-compassion, there is now increasing focus on how to teach others to become more self-compassionate. Chris Germer and Kristin Neff have developed an 8-week program called Mindful Self-Compassion, which explicitly teaches people how to be more self-compassionate in their daily lives (Germer and Neff 2013). A randomized controlled trial of the program (Neff and Germer 2013) found it significantly increased self-compassion, mindfulness, compassion for others, and life satisfaction while decreasing depression, anxiety, stress, and emotional avoidance compared to a control group. All gains in outcomes were maintained at 6 months and 1-year follow-up.

Other studies have found brief self-compassion interventions to be effective for a range of populations. For instance, female college students who participated in a 3-week self-compassion program showed increased self-compassion, life satisfaction, optimism, self-efficacy, and decreased rumination and worry (Smeets et al. 2014). Similarly, individuals vulnerable to depression who completed brief self-compassion exercises every day for a week reported less depression and greater happiness at 3 months and 6 months follow-up (Shapira and Mongrain 2010). Brief self-compassion training has also been found to be helpful for women with body image concerns (Albertson et al. 2014; Kelly and Carter 2015).

In the same vein, short-term writing interventions that induce a self-compassionate mindset have been shown to reduce negative emotions. In one study, participants were asked to think about unfavorable experiences of failure, rejection, humiliation, and loss and reflect on them in response to three prompts that were designed to engender feelings of self-kindness, common humanity, and mindfulness. Results indicated that individuals in the self-compassionate writing condition reported less negative affect and greater equanimity in response to discussing upsetting life events (Leary et al. 2007). This approach to self-compassionate writing has been the model for several other studies that have also found beneficial results. For example, Johnson and O'Brien

(2013) asked shame-prone individuals to recount an experience of shame and respond to self-compassionate writing prompts about this event. Participants in the self-compassionate writing condition exhibited significantly less shame and less negative affect compared to participants in an expressive writing condition. In summary, it appears that self-compassion can be taught to individuals to help them cope with negative emotional experiences in an emotionally productive manner.

Conclusion

Self-compassion appears to be a trainable skill that has immense potential for helping people to thrive. Given that as human beings we cannot be perfect, avoid mistakes, reach all our goals, or avoid hardship in life, self-compassion is an invaluable tool for relating to suffering with a sense of kind, connected presence that makes our troubles easier to bear. For this reason, it is likely that there will continue to be intense interest in studying the mental, emotional, and physical health benefits of self-compassion in a wide variety of life domains.

Cross-References

- ▶ [Compassion](#)
- ▶ [Mindfulness](#)
- ▶ [Self-Concept](#)
- ▶ [Self-Esteem](#)

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Self-Complexity

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Definition

Conceptually, self-complexity refers to the extent to which a person organizes self-knowledge into independent self-aspects. Operationally, there are numerous approaches to measuring self-complexity and considerable debate about the merit and validity of each approach. However, across these measures, self-complexity is generally conceived as existing on a continuum, such that having few overlapping self-aspects is lower self-complexity while having many unrelated self-aspects is greater self-complexity. Self-complexity is primarily studied for its role in current mood and overall well-being.

Introduction

Knowledge about oneself (e.g., semantic traits, episodic memories) is the self-concept's *content*, while how that information is organized (e.g., number of self-aspects) is the self-concept's *structure* (McConnell 2011). Self-complexity is one theoretical approach to understanding self-concept structure. It defines self-concept structure as the frequency of distinct, nonoverlapping self-aspects in a person's self-concept (Linville 1987).

Self-aspects are personally meaningful domains that people use to understand themselves (McConnell 2011). They often reflect roles (e.g., student, mother), social identities (e.g., American, Latina), and activities (e.g., musician, cyclist). They are assumed to exist within an associative network of memories that collectively represent the person's *self-concept*. Each self-aspect is defined by particular attributes, such as personality traits and behaviors, that the person sees as characteristic of him or her in that self-aspect (McConnell 2011). When the same attribute is present in two or more self-aspects, it creates a connection between those self-aspects. Lower self-complexity refers to having few self-aspects that also overlap with one another, whereas greater self-complexity is having many unrelated self-aspects.

Early Work and Measurement Debate

The phenomenon of self-complexity was introduced by Linville (1985, 1987) to explain the extremity of people's emotional reactions to self-relevant events. Linville hypothesized that when the self is compartmentalized into more independent self-aspects, emotions arising from experiences related to one self-aspect will be limited to that self-aspect alone. In contrast, if the person has relatively few self-aspects that share attributes, those connections allow the impact of the experience to spread to other self-aspects and produce more intense emotions as a result.

Linville (1987, p. 97) defined self-complexity as "a function of two things: the number of aspects that one uses to cognitively organize knowledge about the self, and the degree of relatedness of these aspects." To gather data about a person's self-aspects and their relatedness, participants are usually instructed to create groups of attributes (i.e., personality adjectives) that represent meaningful parts of themselves. (e.g., Linville 1985; Renaud and McConnell 2002). Participants can use the same attributes in more than one group, and they are told to create as many groups as are important to them. Each group represents a self-aspect, and the attributes provide information about how related self-aspects are to each other.

To turn the conceptual definition of self-complexity into a single quantitative measure, Linville (1985) applied Scott's H (Scott 1969) statistic, which was developed for information theory but had also been used to measure individuals' cognitive complexity (i.e., the number of nonredundant units a person uses to organize information), to the groups of attributes participants created to describe themselves. The formula for H is,

$$H = \log_2 n - \left(\sum_i n_i \log_2 n_i \right) / n,$$

with n being the total number of items the person was given to sort (i.e., attributes) and n_i being the number of items present in each particular group (i.e., self-aspect) combination (i). A higher score indicates greater complexity because it means items were organized into many nonredundant units.

This approach to calculating self-complexity has been criticized because the final calculated score is driven heavily by the number of groups (self-aspects) participants create, whereas Linville's original definition implied that self-complexity is equally determined by the number of self-aspects and their relatedness (e.g., Koch and Shepperd 2004; Locke 2003; Rafaeli-Mor et al. 1999). Some researchers have suggested that number of self-aspects and self-aspect overlap should be measured separately (e.g., Rafaeli-Mor et al. 1999). There are currently multiple proposed methods for calculating self-complexity, and the lack of consensus has resulted in different researchers opting for different operational definitions (see Brown et al. 2017, for further citations). Despite the criticisms of applying the H statistic to self-complexity, this statistic does predict outcomes that are consistent with self-complexity as it has been defined conceptually.

Outcomes of Self-Complexity

Lower self-complexity – possessing few, highly related self-aspects – predisposes the individual to having more intense emotional reactions to events

that bear on their self-evaluation in some way. This occurs because self-relevant events affect a larger total proportion of the individual's self-concept. First, simply because of the number of self-aspects, an event related to a single self-aspect affects a larger percentage of the overall self-concepts of people with fewer self-aspects than people with many self-aspects. Second, lower self-complexity causes a process called *affective spillover*, in which the connections between self-aspects allow emotions and feelings of self-worth to spread from the self-aspect involved in the event to any self-aspects that are connected to it via shared attributes. This intensification of emotions experienced by people with lower self-complexity occurs for both good and bad self-relevant events (Linville 1985).

In the short-term, people with lower self-complexity report having more extreme emotional reactions after receiving either positive or negative feedback about themselves (Linville 1985; McConnell 2011). People with greater self-complexity are better at controlling self-relevant thoughts after receiving failure feedback (Renaud and McConnell 2002). In the long-term, these emotional reactions have implications for mental health and well-being. Linville proposed that having greater self-complexity buffers the individual from the negative effect of stressful events because having numerous unrelated self-aspects compartmentalizes stressful events (i.e., only the self-aspect related to the event is affected). In contrast, negative events are propagated across the self-concepts of people with lower self-complexity, causing poorer well-being in times of stress.

Linville (1987) provided initial evidence for the buffering power of greater self-complexity in a study that tracked participants' stress and well-being over a 2-week period. However, subsequent tests provided mixed evidence, instead finding an overall positive correlation between self-complexity and well-being (see Koch and Shepperd 2004, for a review).

More recently, this inconsistency has been explained by the presence of moderators. For example, according to the *spillover amplification hypothesis*, lower self-complexity amplifies the

effect of other psychological variables on well-being (McConnell et al. 2009). Consistent with this perspective, lower self-complexity is associated with worse well-being when the individual possesses characteristics that predispose him or her to poor well-being (e.g., stressful events, high neuroticism, past trauma; McConnell et al. 2009). However, people lacking these risk factors report better well-being if they are lower than self-complexity. In other words, whether lower or greater self-complexity is more beneficial depends on whether a person's life is already characterized by positivity or negativity. Greater self-complexity can buffer stress, but it also buffers the impact of pleasant events.

Conclusion

At this point, the link between self-complexity and emotions (particularly well-being) is well-established, but the debate over the best operationalization of self-complexity continues. Self-complexity has primarily been studied for its role in well-being, whereas its origin is relatively unknown. Cultural factors seem to contribute to self-complexity (Brown et al. 2017), and it would be valuable to track its development longitudinally. In addition, while it is known that greater self-complexity can buffer the effect of negative events, whether self-complexity can be strategically changed (e.g., during therapy) to capitalize on buffering or amplification is an open question.

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Self-Concealment Scale

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Synonyms

SCS

Definition

Self-concealment (SC) is an individual difference variable defined as the predisposition to actively conceal from others' personal information that one perceives as "distressing or negative" (Larson and Chastain 1990, p. 440) and measured with the self-concealment scale (SCS).

Introduction

In the development of the SCS, Larson and Chastain (1990) viewed self-concealed personal information as a subset of the private personal information that is consciously accessible to the individual, as distinguished from “unconscious secrets” or secrets from oneself resulting from repression or denial. In addition, this personal information (thoughts, feelings, actions, or events) that is perceived as distressing or negative is actively kept from the awareness of others. Larson and Chastain note that the most painful or traumatic experiences (e.g., childhood abuse, rape, grief, strong negative thoughts about oneself or unhappiness in relationships, and serious medical conditions) are often concealed. The SCS is a ten-item five-point Likert scale with the anchorings 1 (*strongly disagree*) to 5 (*strongly agree*). There are no item reversals and higher ratings reflect greater self-concealment. Representative items include: *I have an important secret I haven't shared with anyone*, *My secrets are too embarrassing to share with others*, and *I have negative thoughts about myself that I never share with anyone*.

Initial evidence reported by Larson and Chastain (1990) indicated that the SCS was a reliable and essentially unidimensional instrument and that SC differed empirically, as well as conceptually, from self-disclosure. SC uniquely contributed to predicting important health outcome, accounting for significant incremental variance in depression, anxiety, and physical symptoms even after controlling for trauma, trauma distress, trauma disclosure, social support, social network, and self-disclosure.

Psychometric Properties

A review of 137 studies using the SCS (Larson et al. 2015) confirmed initial findings supporting the unidimensionality, reliability, and construct validity of the SCS. Cramer and Barry's (1999) extensive study of the psychometric properties of the SCS showed that a unidimensional solution was the most “comprehensive, efficient, and parsimonious” (p. 636). An overall mean of 0.87 was

found for the 99 studies reported coefficient alphas for the SCS, and the scale demonstrated good test-retest reliability. The measure also demonstrates good convergent and discriminant validity: positive relations are obtained with measures of disclosure, authenticity and openness, and secret keeping, and SC is shown to be both conceptually and empirically distinct from self-disclosure, distress disclosure, self-monitoring, and social desirability motivation. In summary, the SCS demonstrates excellent psychometric properties supporting its unidimensionality, reliability, and construct validity.

Related Constructs

Self-concealment research identifies strong relations for SC with a wide range of constructs. Larson et al. (2015) summarize findings for associations with insecure attachments, trauma incidence, social-evaluative concerns (e.g., perfectionism, shyness, trait social anxiety), disclosure, secret keeping, authenticity and openness (e.g., lying), suppression (e.g., self-silencing, suppression of emotional expression, emotional control), mindfulness and psychological flexibility, social support, romantic relationship health, depression, anxiety, physical symptoms (e.g., pain), mental health (e.g., self-esteem, general need satisfaction, psychological well-being), negative health behaviors (e.g., eating disorders, suicidal behaviors), and psychotherapy process and outcome variables. Thought suppression (Gold and Wegner 1995; Smart and Wegner 2000), shame, stigma, social constraints, and the thwarting of basic psychological needs (Uysal et al. 2010) are other key-related constructs that invite empirical investigation.

Working Model and Hypothesis Testing

Larson et al. (2015) present a working model for the psychology of SC and the mechanisms of action for its effects on well-being. The dual-motive conflict theory they advance (i.e., pathological outcomes tend to occur when the desire to gain social support, and to reduce distress through

disclosure, conflicts with the motivation to conceal and with the anticipation of shame and vulnerability) provides a framework for hypothesis formulation and testing when using the SCS.

Applications

SCS studies with specific populations (e.g., LGBT, multicultural, adolescent, family, medical condition, and romantic partner samples) demonstrate the value of the measure when secret keeping is a recognized issue in the group being studied. The scale has been adapted for the use with some of these differing populations. For example, adaptations are now available for adolescent populations (e.g., “I have a secret that is so private I would lie if my parents asked me about it”; Finkenauer et al. 2005), for the concealment of chronic pain (“There are lots of things about my chronic pain that I keep to myself”; Uysal and Lu 2011), and for partners in close relationships (e.g., “I have a secret that I haven’t shared with my partner”; Brunell et al. 2010; Uysal et al. 2012). All adaptations and translations (the SCS is now translated into several languages) retain high internal consistency, and the scale appears to have excellent cultural generalizability.

Conclusion

The self-concealment scale and self-concealment construct are contributing to a rapidly evolving understanding of the role of secrets and secret keeping in psychological, physical, and social well-being. Investigators across a wide range of research areas and populations now recognize the relevance of SC to their work and are using the SCS to explore these often hidden yet significant dimensions of human experience.

Cross-References

- ▶ [Avoidance Coping Strategies](#)
- ▶ [Disclosure Reciprocity](#)
- ▶ [Emotion Regulation](#)

- ▶ [Genuineness](#)
- ▶ [Insecure Attachment](#)
- ▶ [Intimacy Avoidance](#)
- ▶ [Loneliness](#)
- ▶ [Mindfulness](#)
- ▶ [Openness](#)
- ▶ [Perfectionism](#)
- ▶ [Repression \(Defense Mechanism\)](#)
- ▶ [Self-Determination Theory](#)
- ▶ [Self-Disclosure](#)
- ▶ [Self-Monitoring Scale](#)
- ▶ [Sex Differences in Personality Traits](#)
- ▶ [Shyness](#)
- ▶ [Social Support Processes](#)
- ▶ [State/Trait Interactions](#)
- ▶ [Suicidal Behavior](#)
- ▶ [Suppression \(Defense Mechanism\)](#)
- ▶ [Thought Suppression](#)
- ▶ [Trauma](#)
- ▶ [UCLA Loneliness Scale](#)

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Self-Concept

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Synonyms

I; Identity; Me; Self; Self-appraisal; Self-definitions; Self-evaluation; Selfhood

Definition

Self-concept can be defined as the totality of a complex, organized, and yet dynamic system of learned attitudes, beliefs, and evaluative judgments that people hold about themselves.

Introduction

Cogito ergo sum (“I think, therefore I am”), yet “who am I?” This is the fundamental question that, throughout their lives and across diverse contexts, people strive to understand. We are concerned about who we are, who we can become, and how we fit into the environment to function effectively, attain a secured sense of self, and therewith strive

for personal goals and development; being confident in ourselves and our actions (Baumeister 1998; Oyserman et al. 2012). May it be the social or cultural context, family life, work, or settings in which people pursue personal responsibilities or interests, people constantly reflect on themselves, their behaviors, and the related outcomes. In doing so, they evaluate the degree of alignment between the current states and their past, present, and future aspirations (Markus and Wurf 1987; Oyserman et al. 2012). This awareness of and responsiveness towards characteristics that revolve around the self (i.e., one’s needs and motivations, but also one’s role in social relations) and the ability to grasp related beliefs marks the vital importance of the self-concept for people’s experiences, choices, behaviors, and relationships. It is foundational to how people observe, define, and value themselves across varied contexts and roles, shaping their attitudes, cognitions, emotions, and actions context-dependently.

Conceptualizing the Self-Concept

Over the last decades, the conceptualization of the self-concept has experienced a tremendous transformation. First viewed as a unitary and stable entity, the self-concept now holds a multi-dimensional, multifaceted, and dynamic structure that controls and guides how people process self-relevant information in all aspects of their lives (Oyserman et al. 2012). More precisely, self-concepts harbor a person’s knowledge on who or what he or she is (i.e., one’s self-related beliefs) and a person’s evaluation on how to feel about oneself; an evaluation in which people link valences to their self-beliefs (i.e., form positive or negative self-evaluations). Self-concepts persist over time and while for the person itself, his or her self-concept appears stable, it is malleable and fluid, construed and shaped by a person’s self-views, experiences, and contexts over time. Specifically, people’s life experiences and self-concepts act reciprocal (Mortimer et al. 1982). Self-concepts develop through people’s unique experiences, yet are also constantly partially

formed by existent social expectations and power structures in the environment, mediating the link between social contexts and individual behavior (Markus and Wurf 1987).

Untying the Self-Concept

To understand the structure of the self-concept, one needs to untangle and differentiate three, at times interchangeably used, terms: The self, the self-concept, and identities (Oyserman et al. 2012). All three terms are interlaced as they represent mental concepts, are grounded in and shaped by social settings, and constitute drivers for action. Yet, they represent distinct notions, calling for independent considerations. The *self* includes the mental capacity to think of oneself as a thinking actor (“I”) that reflects on oneself as an object and, in doing so, forms the content of the thoughts (“me”). The *self-concept* is constructed by the aspects that mold the “me,” that is, the mental concepts that shape and define who people are, were, and will become (i.e., present, past, and future selves). More precisely, the self-concept refers to “the totality of an individual’s thoughts and feelings having reference to himself [or herself] as an object” (Rosenberg 1979, p. 7). This encompasses a person’s comprehensive self-definitions that describe what crosses a person’s mind when thinking of oneself, how a person thinks of oneself, and what a person considers to hold true about oneself (Baumeister 1998; Oyserman et al. 2012; Stets and Burke 2003). Lastly, the self-concept is made up of multiple (contextualized) *identities*, each being relevant for the overall self-concept and entailing a, to varying extents, positive or negative affective connotation. Identities shape people’s expectations towards and perceptions of the environment as people ascribe attributes, beliefs, values, and competencies to their identities. These then aid to navigate settings as they provide meaning and focus people’s attention on the given context. Specifically, the self-concept encompasses both a personal

identity (i.e., one’s idiosyncratic features and traits) and social identities (i.e., one’s contextual social self-definitions), defining how people understand themselves in particular contexts, social relations, or roles (Gecas 1982; Tajfel and Turner 1986). Identities are dynamic in nature, temporally bound, and intertwined with one another by some form of coherence (Oyserman et al. 2012). Yet, they may differ in their single relevance to each person, resulting in psychologically more central identities to be more directive and regulatory (Stryker and Burke 2000). This salience in identities also reflects in the likelihood that specific identities are activated more probable in certain contexts and thus link more closely to particular behaviors.

Functioning of the Self-Concept

Deeply rooted in three essential features of human life, the self-concept is grounded in the human’s reflective consciousness, interpersonal relations and interactions, and the human capacity for executive functioning that enables agentic and decisive behaviors (Baumeister 1998). To function effectively, a person’s fundamental motives and the powerful human drive to hold and guard positive self-views are of vital importance (Gecas 1991; Stets and Burke 2003). By harboring multiple self-motives and also representations on one’s past, present, and future selves, people continuously strive for feelings of authenticity (i.e., coherence between one’s behavior and perceptions), self-worth (i.e., valuing oneself), and self-efficacy (i.e., feeling capable; Sheldon et al. 1997; Stets and Burke 2000). The diverse motives relate to different features of the self-concept, linking, for instance, more to a person’s membership in groups (e.g., motive for self-worth) or relating more to the actual enactment of the self (e.g., motive for self-efficacy). The self-concept then links to manifold outcomes such as people’s well-being, adaptive functioning, or academic performance (Oyserman et al. 2012; Sheldon et al. 1997).

Intraindividual Differences in the Self-Concept

Intraindividual differences in the self-concept exist due to different dynamic motivational forces within people. Self-concepts and the related multiple identities people hold vary as the self-concept is (a) context-specific and (b) malleable (Oyserman et al. 2012). When defining themselves in particular situations, people can draw on various perspectives (e.g., individualistic “me” or collectivistic “us”), relying in differing degrees on their distinctive personal traits or their social roles and interpersonal relationships. Specifically, each situation may differ in regards to the aspects of a person’s self-concept that are highlighted more explicitly (i.e., one’s personal identity or social identities), in turn, directing the person’s attention more towards the prevailing self-definitions in that situation. Further, the diverse roles that people occupy in their lives shape their contextualized identities (Stryker and Burke 2000). These role identities are reflexive self-definitions arising from people’s memberships in social groups. They are formed by the evaluative processes of others’ responses towards oneself and one’s actions, subsequently giving meaning to a person’s self-definitions by validating one’s social status and consequently, either nurturing positive or inducing negative self-evaluations (Callero 1985; Stryker and Burke 2000). The vast influence of social relations on role identities also shows in a person’s commitment to each specific role, which depends largely on the related judgments of significant others.

Moreover, people are driven to act according to their identity standards (i.e., the meanings and norms they attach to each role) and thus aspire a congruence between their self-beliefs, the roles they hold in different contexts, and their enacted behaviors (Burke and Stets 1999). When specific identities are activated, people undergo self-verification processes to assess this congruence, which, in turn, increases their sense of control. In this regard, research highlighted that variations in the degree of felt authenticity

in each role – a degree that may differ across roles – relates to within-person variations in people’s Big Five personality traits (Sheldon et al. 1997). The more able people are to genuinely express themselves within a given role, the more agreeable, conscientious, extraverted, open to experience, and the less neurotic they are in that role.

Yet, incongruences may occur in the form of instabilities between a person’s self-concept and actions, other people’s judgments and reactions, or additional situational influences. In such cases, people first seek to shield themselves from change by modifying the situation through goal-focused self-regulation (Baumeister 1998; Oyserman et al. 2012). However, when alterations in self-views seem inevitable (e.g., due to life and peripheral circumstances), people adjust their self-concepts (Rosenberg 1979; Stets and Burke 2003).

Interindividual Differences in Self-Concept

As self-concepts are dynamically and actively build, yet also passively shaped by social relations and contexts, they naturally vary between people. Each person differs from others in his or her life, career, and social experiences, knowledge, interests, desires, exposures to external forces (e.g., political and commercial), and cultural influences (Elliott 2001). The wholeness of these underlying experiences shape people’s unique life story and subsequently, their self-definitions and aspirations (Mortimer et al. 1982). Besides this sheer variety of influences, the self-concept further depends on numerous factors such as a person’s age, gender, personality, ethnicity, historical context, (predominant) self-motives, group memberships, and roles (Baumeister 1998; Oyserman et al. 2012; Rosenberg 1979). In fact, the self-concept entails a developmental component, becoming more defined and stable with increasing age (Coleman 1996). Yet, people’s evaluations of events and their accumulated experiences continue to shape the self-concept throughout their

lives (Mortimer et al. 1982). Also, while formerly, gender differences in self-concept related to conventional gender ideals (i.e., interrelatedness as feminine versus interdependence as masculine), these differences gradually decreased in response to prominent societal changes (Cross and Madson 1997). Research further pointed to differences in personality to influence people's self-concept. For instance, the extent to which people are able to clearly and consistently define themselves links, amongst others, to low neuroticism, high conscientiousness and agreeableness, and to other factors such as how self-aware they are (Campbell et al. 1996).

Conclusion

To sum it up, each person's self-concept is unique, illustrating the distinctiveness of every individual. By regulating behaviors and shaping perceptions of the environment, people's self-concepts control and guide the processing of self-relevant information that enable people to define themselves across contexts and to enact certain behaviors that foster the pursuit of their goals. Self-concepts aid people in defining themselves via specific roles, focusing their attention on the given context and allowing the navigation in and adaption to environments. To function effectively, people seek to fulfill their self-related motives and strive for self-verification that upholds positive self-views and evaluates the alignment between one's self-beliefs and behaviors.

Cross-References

- ▶ [Compartmentalization](#)
- ▶ [Evaluative Organization](#)
- ▶ [Identity](#)
- ▶ [Multidimensional Self-Concept](#)
- ▶ [Self](#)
- ▶ [Self-Concept](#)
- ▶ [Self-Knowledge](#)

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Self-Concept Clarity

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Synonyms

[Certainty of self-beliefs](#)

Definition

“The extent to which the contents of an individual’s self-concept are clearly and confidently defined, internally consistent, and temporally stable” (Campbell et al. 1996, p. 141).

Introduction

Much like people form conceptions about objects and ideas they encounter in the world (e.g., chocolate cake is sweet, brown, rich, and tasty), they also develop conceptions about another object: the self. The self-concept is a complex knowledge structure that contains every available piece of information that is relevant to the self (e.g., traits, values, beliefs, etc.). However, researchers have argued that there are additional factors – beyond the mere *contents* of one’s self-conceptions – that are critical to understanding self-relevant phenomena. One such factor that appears to offer unique insights into self-related processes is self-concept clarity (Campbell 1990; Campbell et al. 1996). Self-concept clarity (SCC) is defined as “the extent to which the contents or self-beliefs are clearly and confidently defined, internally consistent, and temporally stable” (Campbell et al. 1996, p. 141).

This means that two people can have self-concepts made up of similar content but still differ in their levels of clarity. For example, imagine Person A and Person B have self-concepts consisting of the same traits (e.g., intelligent, athletic, funny). Person A may be very confident that (s)he possesses those traits, whereas Person B may *think* (s)he possess them but is a little more unsure. In addition to being confident in the content of one’s self-concept, the definition of SCC contends that clear individuals also (1) tend not to hold contradictory self-beliefs and (2) tend not to experience much change in those beliefs over time. So if Person B’s self-concept consisted of conflicting attributes (e.g., athletic *and* lazy), this would be considered inconsistent content. Relatedly, if Person B defined him or herself one way today and a different way tomorrow, that would be considered unstable content. Both instances would suggest that Person B was potentially more unclear than Person A.

Although the above examples use individual traits, SCC is a *global* feature of the self-concept and not as specific to a given attribute. So although it is possible to have varying levels of confidence in individual traits (e.g., intelligence, athleticism, humor), such confidence is not necessarily the same as having a clear *overall* self-concept.

History of Self-Concept Clarity

Research on SCC began as an attempt to understand why individuals with low self-esteem tend to have unstable, fragile self-beliefs (Campbell 1990). Researchers wondered if this might be due to differences in the clarity with which individuals held their self-views. For example, evaluating the self negatively (low self-esteem) may lead to uncertainty about who one is (low SCC). Alternatively, being unclear about who one is may contribute to why someone would evaluate the self negatively. In her original work on SCC, Campbell (1990) found evidence that SCC and self-esteem are related by using a number of indirect approaches.

First, if having high SCC has to do with being certain about the content of one's self-concept, people should presumably be able to report that certainty. To assess this, individuals were asked to rate the self-descriptiveness of various bipolar traits (e.g., competitive/cooperative) and then report their confidence in each of those ratings. The average confidence across all of the traits served as an index of global self-concept certainty. So regardless of a trait's level of self-descriptiveness, people's confidence about that trait rating is considered a sign of clarity (i.e., people can be equally certain that some trait *does* describe them as they are that another *does not*). This approach assumes that global clarity would manifest as confidence across multiple traits that can represent a range of possible self-conceptions. In line with the hypotheses, Campbell (1990) found that participants with low (versus high) self-esteem reported having less confident self-assessments, suggesting that self-evaluations are linked to how certain people are in regards to their self-content.

Another way Campbell (1990) indirectly assessed self-concept clarity was by examining the amount of change in self-relevant information over time. If an individual has a clearly and confidently defined sense of self, that conception should be unwavering from one day to the next. Campbell assessed this aspect of clarity by having individuals rate the self-descriptiveness of traits twice, with 2 months in between measurement occasions. Again, results indicated that the self-views of individuals with low self-esteem changed more and were therefore less stable over the 2 month time period.

Yet another way SCC has historically been assessed is by examining the consistent or inconsistent nature of self-content. To measure this, Campbell (1990) counted the number of consistent responses to opposite pairs of trait adjectives. Based on this approach, clear individuals are expected to exhibit consistency in their self-conceptions by endorsing one adjective (e.g., silly) and rejecting its opposite (e.g., serious). Indeed, low self-esteem individuals endorsed more inconsistent traits than their high self-esteem counterparts, again demonstrating the link

between self-evaluations and clarity of self-views, this time in terms of contradictory self-content.

Finally, researchers have also recorded reaction times while asking individuals about the self-descriptiveness of traits. Using this approach assumes that individuals who have a clearly defined self-concept should be able to access that content quickly, resulting in faster reaction times during this task (compared to less clear individuals who would need more time to contemplate whether or not their self-concepts contain certain characteristics). Campbell (1990) once again documented that people who reported having lower self-esteem were more unclear based on how much slower they were to identify traits as self-descriptive.

All of this converging evidence built a strong foundation for the association between self-esteem and SCC – an association that has garnered much more support since these initial studies. Despite having their origins in 1990, these measurement approaches are still used in SCC research today. However, these early studies paved the way for the development of what is currently the most widely used measure of SCC: the Self-Concept Clarity Scale (SCCS; Campbell et al. 1996). This is a 12-item self-report scale developed by Campbell and her colleagues to directly assess people's perceptions of the overall certainty, consistency, and stability of their self-conceptions. Individuals respond to items such as, "In general, I have a clear sense of who I am and what I am," and "My beliefs about myself often conflict with one another," using a five-point scale (1 = *Strongly disagree*, 5 = *Strongly agree*) so that higher scores indicate a more clearly defined self-concept.

Outcomes of Self-Concept Clarity

Since its publication, research using the SCCS has demonstrated its ability to predict a host of positive outcomes across various domains. In line with the original work in this area, one of the most widely-documented associations is with self-esteem. In fact, the correlations typically

observed between self-esteem and SCC are quite high, with correlations as large as 0.7 not being unusual (e.g., Wong et al. 2014). The SCCS has also been shown to predict other personal well-being outcomes such as greater purpose in one's own life (Bigler et al. 2001). Of course, having a clear self-concept need not only benefit the individual; it is also associated with interpersonal well-being. For instance, clear individuals report being more committed to and satisfied with their romantic relationships (Lewandowski et al. 2010).

Finally, the SCCS is strongly associated with a range of psychological health outcomes. Notably, individuals who report higher scores on the SCCS are less likely to report experiencing symptoms of depression and anxiety (Schwartz et al. 2012). Beyond this, however, the SCCS has also been linked to more specific mental health concerns. For instance, individuals who report having a clear sense of self using the SCCS are also less likely to struggle with body image and dieting concerns (Vartanian 2009).

As previously mentioned, the indirect approaches to measuring SCC predict many of these consequences, as well. For example, each indirect assessment appears to be associated with self-esteem, much like the SCCS. A more nuanced view reveals that, in addition to the SCCS, the certainty one has about the contents of his or her self-concept has been shown to predict one's quality of life (Wu and Yao 2007). Additionally, possessing a greater number of inconsistent traits as well as being slower in making self-assessments have both been shown to predict depression and anxiety (Stopa et al. 2010).

Caveats

Overall, both Campbell's definition of SCC and the plethora of measurement approaches used to assess it seem to identify multiple distinct constructs. Individually, all of the measures discussed herein are associated with some meaningful consequences or correlates of SCC. However, recent work examining multiple measurement approaches in synchrony suggests that they do

not reflect the same unitary construct and, therefore, should not be used interchangeably (DeMarree and Bobrowski 2018). Evidence for this comes from a factor analysis in which, rather than all of the measures loading onto a single SCC factor, results pointed to a multi-factor model being more appropriate. Additionally, not only did the measurement factors correlate weakly with one another ($r_s = -0.04$ to 0.28), but they also differentially predicted outcomes. For instance, when it came to mental health consequences, clarity in terms of the SCCS significantly predicted decreases in social anxiety and dysphoria (but not panic), whereas clarity as defined by certain and extreme self-views significantly predicted decreases in panic (but not social anxiety or dysphoria).

Furthermore, because research has documented strong, consistent correlations between self-esteem and SCC, it can be difficult to determine if certain outcomes are due to individuals being unclear about the self or individuals negatively evaluating the self. For example, if there is a negative relation between SCC and depressive symptoms, is that relation truly because being uncertain about the self predicts increases in such symptoms or because having low self-esteem predicts both SCC and depression? DeMarree and Bobrowski (2018) shed light on this distinction by removing the influence of self-esteem when predicting various consequences. What the data revealed is that self-esteem does predict many of the same things as SCC (e.g., mental health, well-being, etc.). However, after removing this influence, the ability of SCC measures to predict these outcomes was generally weakened, and in some cases was eliminated. What this demonstrates is that both self-esteem and self-concept clarity can predict important life outcomes but considering SCC without considering self-esteem does not tell the whole story.

Conclusion

Self-concept clarity is the extent to which self-beliefs are clearly and confidently defined, internally consistent, and temporally stable. Historically, this is strongly associated with how

positively or negatively one views the self, with high self-esteem individuals tending to have a clearer idea of who they are. Despite this, SCC and self-esteem are unique constructs. Both can independently predict many positive outcomes for the self, such as personal well-being and mental health. These effects are most commonly found using a direct measure of SCC (the SCCS), although other indirect measures continue to be used. These different measurement approaches are not interchangeable, however, so choosing a strategy carefully can be important in terms of what one is able to predict.

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Self-Concept Content

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Synonyms

[Self-beliefs](#); [Self-knowledge](#); [Self-schemas](#)

Definition

The self-concept is one's full set of beliefs about oneself or self-knowledge. It includes beliefs about personal characteristics, such as traits, abilities, values, preferences, and opinions, as well as beliefs about one's social identities, such as social roles, relationships, and social groups. It is, in essence, the beliefs one can draw on to answer the question, "Who am I?"

Introduction

People generally have little trouble understanding what is meant by "the self" and can recognize continuity in their subjective experiences and identities. But the self is actually quite difficult to define clearly (see Baumeister 1998). What exactly is "the self," and how might it be studied empirically? Although these are important questions, the self-concept represents only one part of the self and is comparatively easy to define. The self-concept is one's full set of beliefs about oneself or self-knowledge. The highly developed human capacity for reflexive consciousness – the ability to direct conscious attention back toward the self as an object of awareness – allows people to develop extensive beliefs about themselves (Baumeister 1998). One may view oneself as being athletic, intelligent, shy, a parent, a friend, a football fan, and so on. The self-concept consists of personal identities or beliefs about who one is as an individual (e.g., traits, abilities, values, opinions), as well as social identities, or beliefs about who one is in relation to other people

(e.g., social roles, relationships, social groups; Tajfel and Turner 1986).

Although psychologists sometimes refer to *the* self-concept, as though it is a singular entity, it is widely accepted that self-knowledge is not contained in one single mental representation. Rather, people possess a vast store of self-knowledge, only a small fraction of which is accessible to consciousness at any given time (sometimes referred to as the *working self-concept*; Markus and Kunda 1986). Although the conscious part of self-knowledge may appear to be coherent and integrated, the greater store of self-knowledge can contain many contradictions and inconsistencies (Baumeister 1998). The fact that different portions of self-knowledge are conscious at different times, moreover, can lead people to hold different, potentially incompatible, self-views at different times. In this way, the self-concept is malleable (e.g., Markus and Kunda 1986).

Nevertheless, people do also possess stable self-knowledge, reflected in part by *self-schemas*, or specific, core self-beliefs (Markus 1977). If someone is self-schematic for athletics, for example, they are likely to view themselves as being highly athletic and to consistently view themselves as athletic across time and situations. They are likely, moreover, to be able to recall sports-related activities faster and to judge other people in terms of their athleticism more readily, than someone who is not schematic for athletics (Kihlstrom and Cantor 1984).

Self-esteem is generally viewed as the evaluative component of the self-concept. Although some theorists draw a sharp distinction between self-esteem (evaluative) and the self-concept (nonevaluative), this distinction is difficult to maintain in practice (Marsh and Craven 2006). People are highly invested their self-beliefs – most people strongly prefer to think of themselves as intelligent rather than dim, attractive rather than homely, and moral rather than immoral. One’s self-beliefs, moreover, have implications for self-esteem; individuals who hold mostly positive self-beliefs are generally higher in self-esteem than those who hold primarily negative self-beliefs (e.g., Segal 1988). Lastly, self-esteem is

associated with self-concept confusion (e.g., Campbell and Fehr 1990). People with high self-esteem report knowing more about themselves, are more certain in their self-knowledge, and display greater stability and fewer contradictions in self-knowledge than do people with low self-esteem.

Where Does Self-Knowledge Come From?

The human capacity for reflexive consciousness allows people to develop considerable self-knowledge. But how do they do so? How do people decide how intelligent they are or how attractive, moral, or outgoing? Although this is not an exhaustive list, three factors have been extensively studied; people acquire self-knowledge through other people, through social comparison, and through their culture milieu.

Our self-knowledge derives in part from how other people view us. Early sociological accounts argued that people derive a sense of self from how other people perceive and react to them (Cooley 1902; Mead 1934). Cooley coined the phrase, “the looking-glass self” to describe the process by which people internalize others’ views of them into their self-concepts. If one is repeatedly seen, and reacted to, as being honest by other people, for example, that individual is likely to come to view himself or herself as honest. Notably, this view implies that people’s self-concepts should correspond closely to others’ perceptions of them. A review of relevant research, however, revealed that people’s self-views do not closely correspond to how other people report viewing them (Shrauger and Schoeneman 1979). In contrast, self-views do correspond closely to how people *believe* others view them, though these beliefs are not very accurate. Self-views may thus be affected by how we believe others perceive us.

Other people also affect self-knowledge by serving as standards against which people judge themselves (Festinger 1954). How intelligent are you? How wealthy? How tall? One way people try to answer such questions is by considering how

they compare to others. Did other students get better or worse grades in school than them? Is their salary higher or lower than their coworkers'? Are they taller or shorter than most other people? This process of social comparison influences self-beliefs and can also affect how satisfied people are with themselves. If people compare themselves to others who are superior to them, they may feel worse about themselves. If they compare to others who are inferior, they may feel better. Students who attend average schools feel better about their academic ability than equally capable students who attend higher-achieving schools (Marsh 1987). People feel more satisfied when they are "big fish" in "little ponds."

Lastly, the self-concept is affected by culture. Cultures differ in the extent to which they emphasize the importance of the social group or the individual. At one end of the spectrum are individualistic cultures, like Canada and the USA, which emphasize the individual; at the other are collectivist cultures, such as China and Japan, which emphasize the group. These cultural differences promote different ways of viewing and understanding the self and thus encourage different kinds of self-knowledge (Markus and Kitayama 1991). People in collectivist cultures tend to have more interdependent self-construals that emphasize the ways in which the self is connected to other people. Such self-construals highlight social relationships, roles, and groups as central to the self-concept (e.g., "I am a parent," "I am a student," "I am generous with my friends"). People in individualistic cultures, in contrast, tend to have more independent self-construals that emphasize the ways in which the self is distinct and separate from other people. Such self-construals highlight internal attributes, traits, and attitudes as central to the self-concept (e.g., "I am intelligent," "I am argumentative," "I am funny"). In this way, people in different cultures have quite different self-conceptions.

Motives for Acquiring Self-Knowledge

People are highly invested in learning new information about themselves but can be motivated by

different goals when doing so (Baumeister 1998; Sedikides 1993). In some cases, people seek accurate information that is diagnostic of their attributes (Trope 1986). Such information is useful for understanding one's strengths and limitations. In such cases, people are guided by a self-appraisal motive. People are not, however, always invested in acquiring accurate self-knowledge. Sometimes they want to simply confirm what they already believe about themselves (Swann 1987). In such cases, they are guided by a self-verification motive. They may resist new information that challenges existing self-beliefs. Lastly, people may simply want to learn self-flattering information. In such cases, they are guided by a self-enhancement motive. They may resist new information that casts them in a negative light and try to dismiss such information as irrelevant or inaccurate (see Greenwald 1980). When these different self-motives are pitted against each other (e.g., if one has the opportunity to learn diagnostic but potentially negative information about oneself), people appear to be most strongly motivated by self-enhancement, substantially less so by self-verification, and least of all – by a wide margin – by accurate self-appraisal (Sedikides 1993).

Conclusion

The self-concept is one's full store of beliefs about oneself or self-knowledge. The self-concept includes information about personal characteristics as well as social identities. Self-esteem is the evaluative component of the self-concept. Although there is stability in the self-concept, it can also be malleable because only a portion of self-knowledge is accessible to consciousness at any time. Self-knowledge is affected by our beliefs about how other people view us, by how we compare to others, and by the culture we live in. People are guided by different motives when acquiring new self-knowledge. They appear to be most strongly guided by self-enhancement, followed by self-verification, and least of all by accurate self-appraisal.

Cross-References

- ▶ [Interdependent and Independent Self-Concept](#)
- ▶ [Self](#)
- ▶ [Self-Complexity](#)
- ▶ [Self-Concept](#)
- ▶ [Self-Concept Clarity](#)
- ▶ [Self-Enhancement Bias](#)
- ▶ [Self-Esteem](#)
- ▶ [Self-Schema](#)
- ▶ [Self-Serving Bias](#)

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Self-Confirmation

- ▶ [Self-Verification Theory](#)

Self-Conscious Emotions

- ▶ [Guilt and Shame](#)

Self-Consciousness

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Synonyms

[Dispositional self-awareness](#)

Definition

Self-consciousness is a dispositional tendency to spend time in a state of heightened self-awareness.

Introduction

Self-consciousness is a personality variable that predicts complexity and consistency in thoughts, feelings, and behaviors associated with the

self-concept. This entry will begin by defining the concept of self-consciousness and discussing the scale designed to measure it. Consequences and correlates of high and low self-consciousness will be briefly reviewed, followed by a discussion of the primary measure of self-consciousness and potential future directions.

Self-Awareness as a Trait

“The consistent tendency of persons to direct attention inward or outward is the trait of self-consciousness” (Fenigstein et al. 1975, p. 522).

Self-consciousness is intimately related to self-awareness (see the ► [“Self-Awareness”](#) entry in this encyclopedia for a detailed description). Heightened or objective self-awareness is a state in which a person turns attention inward, toward the self. This attention results in a comparison of the current self to one’s goals and standards for the self. Emotional and behavioral changes occur as the result of this comparison. Low self-awareness or subjective self-awareness is a state in which a person turns attention outward, toward the environment, thinking little of the self-concept (Duval and Wicklund 1972).

People vary in their tendency to spend time in a state of heightened self-awareness. Some may seem to live in their own world, constantly introspecting about who they are, who they should be, and what they want in their lives. These individuals may often examine where they currently stand in relation to their thoughts, values, and ambitions and are considered to be high in dispositional self-awareness (self-consciousness). Others who spend little time paying attention to themselves and where they stand in relation to thoughts, values, and ambitions are considered low in self-consciousness. Essentially, self-consciousness is an individual difference variable (or personality trait) that reflects one’s tendency to spend time in heightened or objective self-awareness.

The Self-Consciousness Scale

While self-consciousness may seem like a simple concept to understand, it can be difficult to

measure. The first and primary method of measuring individuals’ level of self-consciousness is the Self-Consciousness Scale, developed by Fenigstein et al. (1975) and later revised by Scheier and Carver (1985). The original scale was developed by researchers who began by creating a list of behaviors that may indicate the tendency to self-reflect such as thinking about and evaluating oneself. In the process of narrowing down items in their questionnaire statements, Fenigstein and colleagues (1975) repeatedly analyzed college students’ responses using factor analysis. The final scale of 23 items included three underlying factors labelled private self-consciousness, public self-consciousness, and social anxiety. While these three factors were not expected, they were explained in terms of the tendency to reflect on private aspects of the self, public aspects of the self, and a negative tendency to obsess over other’s potential judgments of themselves. The two primary types of self-consciousness are considered to be public and private.

Private Self-Consciousness

The private self-consciousness (PSC) subscale of the Self-Consciousness Scale consists of items related to a tendency to introspect on the self and analyze internal thoughts and feelings. Examples of items from the PSC subscale include “I reflect about myself a lot” and “I am alert to changes in my mood.” People who are high in private self-consciousness are thought to have a better, more complex, and accurate understanding of themselves. The complexity of self-descriptions was demonstrated by Davies (1996) who asked students to sort cards with adjectives on them into groups that describe themselves. Participants who were high in PSC indicated that their self-concept was more complex, based on the number of groupings. More specifically, participants higher in private self-consciousness showed higher complexity for private aspects of the self, while participants higher in public self-consciousness demonstrated a higher complexity for public aspects of themselves.

The accuracy of self-descriptions has been tested in several ways. For example, Davies

(1994) found that participants high in private self-consciousness can ascertain when they are given false feedback about their personalities. High PSC participants were accurate in perceptions of themselves and confident in those perceptions. Other research on accuracy comes from research on test-retest reliability of self-reports. Nasby (1989b) found that subjects scoring high in PSC showed higher test-retest reliability on measures of personality – participants demonstrated higher consistency in their personality over time. Hjelle and Bernard (1994) replicated these results with longer time intervals between first and second administration of personality (and depression) measures. The results of their experiments replicated previous test-retest reliability research and also indicated higher temporal stability in self-reported personality for those relatively high in private self-consciousness.

People higher in private self-consciousness also demonstrate greater consistency between traits and behavior. Scheier et al. (1978) found that people high in private self-awareness demonstrated more consistency between self-reports of aggressiveness and acts of aggression. This classic study used the Buss aggression machine paradigm. Participants were asked to administer shocks to learners when they answered questions incorrectly. For those high in private self-consciousness, self-reported aggressiveness correlated 0.66 with the intensity of shock administered, while for those low in private self-consciousness, the correlation fell to near zero (0.09). On the opposite end of the trait and behavior spectrum, Smith and Shaffer (1986) found a higher correlation between self-reports of altruism and altruistic behavior for those high in PSC than those low in PSC.

Private self-consciousness may also increase internal attributions, which is a common result with self-focused attention research. Because of increased inward attention, people seem to attribute both their failures and successes to themselves when objectively self-aware (e.g., Duval and Silvia 2001). This tendency for internal attribution is also present for people high in private self-consciousness in some studies. For example, Buss and Scheier (1976) found that individuals

high in private self-consciousness attribute both positive and negative outcomes to the self, making internal self-attributions. This general result has been more recently replicated (e.g., Briere and Vallerand 1990). However, the relationship between internal attributions and PSC was not observed by Franzoi and Sweeny (1986), who found no correlation between PSC and internal attributions. The conflicting results may be due to two sub-factors in the private self-consciousness scale.

Burnkrant and Page (1984) discovered that the private Self-Consciousness Scale may have two sub-factors, which they labeled Internal State Awareness and Self-Reflectiveness. Self-Reflectiveness correlates with negative emotions (Watson et al. 1996), and the scale seems to measure some sort of ruminative emphasis on evaluating one's self negatively, placing emphasis on judgment and failures. Watson et al. (1989) proposed that Self-Reflectiveness (not Internal State Awareness) may be responsible for correlations between PSC and internal attributions for successes and failures.

Internal State Awareness, however, may be a predictor of psychological well-being. In a study by Harrington and Loffredo (2007), Internal State Awareness correlated with six dimensions of well-being, whereas Self-Reflectiveness negatively correlated with two and had no significant relations with the other four dimensions included in the study (see also Watson et al. 1996). ISA seems to be an introspective type of awareness that involves less negativity and a more open and curious examination of the self.

The two-factor structure of self-consciousness was replicated in 13 of the 32 factor analyses reviewed by Smari et al. (2008). The specific content of these factors and their fit statistics, however, vary from study to study. Therefore, the distinction of Internal State Awareness and Self-Reflection from PSC remains a somewhat controversial topic. Silvia (1999) criticized the distinction between Internal State Awareness and Self-Reflection for being phenomena of factor analysis, with little to no theoretical basis. However, the idea that PSC has both positive and negative aspects has been explored by at least

two other groups of researchers. Trapnell and Campbell (1999) proposed an alternative measure to PSC that measures ruminative and reflective aspects of self-consciousness. Grant et al. (2002) proposed the Insight and Self-Reflection Scale. Both of these scales are designed to tap into negative, ruminative, and more positive or neutral self-consciousness tendencies. See the ► [“Self-Reflection”](#) entry of this encyclopedia for a more detailed discussion of these concepts, but it is clear that extended time in self-focused attention can be helpful or hurtful.

Public Self-Consciousness

The public self-consciousness subscale of the Self-Consciousness Scale consists of items related to attention placed on the aspects of the self that can be seen and judged by others. Examples of items from this subscale include “I usually worry about making a good impression” and “I’m usually aware of my appearance” (Fenigstein et al. 1975). High public self-consciousness individuals spend more time with attention directed toward observable aspects of the self, such as physical appearance, expressiveness, and self as a social object. High public self-conscious individuals seem to place more attention on and direct more effort toward their physical appearance. For example, females high in public self-consciousness wear more makeup than females low in public self-consciousness. The use of makeup seems to be related to increased attractiveness in a study by Miller and Cox (1982). Both men and women who scored high in public self-consciousness also expressed more involvement in the clothing that they wear (Solomon and Schopler 1982).

High public self-conscious individuals also pay more attention to and direct more effort toward how others perceive them. Gallaher (as cited in Gallaher 1992) reported that people high in public self-consciousness tend to be more expressive and expansive in their nonverbal behaviors – participants high in public self-consciousness reported using more nonverbal gestures and were rated as actually using more gestures to aid in communication and expression. Shepperd and Arkin (1989) found that

participants high in self-consciousness were more likely to use self-handicapping on important tests. Self-handicapping is a self-presentation technique in which an individual does something before a test, for example, that could serve as an excuse in case of failure. In other words, self-handicapping can make people appear less incompetent when they fail. This study with self-handicapping, combined with work on nonverbal gestures and physical appearance indicates that people high in self-consciousness do think about how they look to other people and demonstrate behaviors to control how they look to others.

Public self-consciousness also predicts attitudinal consistency (or lack thereof) in public vs. private situations. Scheier (1980) asked participants to write an essay that was either in favor of or against physical punishment of children. The essays were written with other participants nearby, with the understanding that someone would read and rate their essay after the experiment. Participants high in public self-consciousness expressed moderate attitudes toward physical punishment, no matter what their personal beliefs were. In fact, the correlation between privately held beliefs and publicly expressed attitudes was zero (0.00). For participants high in private self-awareness and low in public self-consciousness, the correlation between private beliefs and public attitudes was 0.68. Their essays were not generally moderate. They wrote essays in line with their previously held beliefs and attitudes. Thus, public self-consciousness seems to encourage the expression of a position that is more socially acceptable (moderation) regardless of one’s own private attitudes.

With added time and attention placed on social aspects of the self, individuals high in public self-consciousness may also be more sensitive to feedback in social situations. In a study by Fenigstein (1979), individuals who were ignored in a social group and were high in public self-consciousness reported less desire to be around that group again, disliked the members of the group more, and blamed themselves for the exclusion (made internal attributions) when compared to those low in public self-consciousness.

Criticisms of the Self-Consciousness Scale

While self-consciousness is widely acknowledged as a potentially useful and important trait, the distinction between private and public self-consciousness has been questioned for at least two reasons. One is that these types of self-consciousness were discovered and then labeled and explained post hoc. Wicklund and Gollwitzer (1987) argue this point adamantly and thoroughly, citing Aristotelean theory as opposed to the preferred Galilean theory. With Aristotelean theory, people behave because they belong to a group, but with Galilean theory, people behave as the result of underlying processes and traits. In other words, Wicklund and Gollwitzer point out that the scale was designed to measure an underlying trait based in theory, but instead created two types of self-consciousness that are not necessarily based in theory. They point out that there could be endless types of self-consciousness based on which aspects of the self people tend to focus on most when self-aware.

Carver and Scheier (1987) reacted to Wicklund and Gollwitzer's (1987) critique, pointing out that public and private self-awareness are not two types of self-consciousness. Both are self-consciousness, but the focus of self-focused attention for some people may be chronically focused on either private aspects of the self or public aspects of the self. In other words, within individuals who regularly focus attention on the self, the specific contents that they focus on are dispositionally different. The distinction between social and a private contents of self-knowledge is not without precedent – William James (1892) distinguished between the social and private selves as important parts of the overall self. Knowing which aspects of the self are more chronically accessible to individuals may aid in predicting thoughts, feelings, and behaviors.

The second major criticism of the Self-Consciousness Scale concerns the relationship between self-consciousness and self-awareness. Self-consciousness is defined as a tendency to spend time in a state of heightened self-awareness, but only the Private Self-Consciousness subscale (as a whole, not considering Internal State Awareness and Self-Reflection) is correlated with level

of self-awareness. Carver and Scheier (1978) first found this tendency in a study where self-awareness was manipulated and self-consciousness was measured. They tested how self-awareness and self-consciousness related to a measure of self-focused attention that asked participants to complete ambiguous sentences. The wording used to complete the sentences was rated for whether or not it reflected self-focus. Unsurprisingly, people completing the measure in the high self-awareness condition demonstrated more self-focus in their responses. People who were high in self-consciousness also demonstrated more self-focus in their responses than those low in self-consciousness. However, this result only held for private self-consciousness. Public self-consciousness did not relate to the number of self-focused sentence completions.

There is an additional issue with the Self-Consciousness Scale that is not a criticism of the scale itself. The Self-Consciousness Scale is the only measure of self-consciousness; thus, the scale has more or less defined the concept. Several researchers have mentioned the need for new and alternative scales (Smari et al. 2008; Watson et al. 1996; Wicklund and Gollwitzer 1987). While a few alternatives exist, they are all ultimately based upon the original Self-Consciousness Scale (e.g., Mylonas et al. 2012; Trapnell and Campbell 1999; Grant et al. 2002). The paucity of self-consciousness measures ultimately is a disservice to self-research, and new, well-tested, and reliable measures are needed in future studies.

Conclusion

Interest in the topic of self-consciousness is fairly obviously reflected in the number of studies on the topic and the number of countries housing researchers who have published work in the area. The Self-Consciousness Scale has been translated into French, German, Mandarin, Dutch, Italian, Spanish, Swedish, Turkish, and Greek (Mylonas et al. 2012). The original scale has also been adapted for research with non-college community-based samples (Scheier and Carver 1985) and for research with children

(Takishima-Lacasa et al. 2014). Extant research demonstrates that self-consciousness may predict thoughts, feelings, and behaviors; the consistency between thoughts, feelings, and behaviors; and the temporal stability of traits. Self-consciousness also seems to predict the complexity of self-concepts as well as how important those self-concepts are in everyday behavior. Many potential possibilities for research and theory exist for the trait of self-consciousness, and in some ways, the work has only just begun.

Cross-References

- ▶ Self-Awareness
- ▶ Self-Reflection

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Self-Consciousness Scale

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Synonyms

SCS

Definition

Self-consciousness (SC) is an individual difference trait defined as the persistent tendency of

individuals to continuously allocate attention to the self (self-directed attention, Fenigstein 2009) and measured with the self-consciousness scale (SCS) (Fenigstein et al. 1975).

Introduction

In 1975, Fenigstein, Scheier, and Buss have constructed the SCS assessing behaviors constituting the domain of self-consciousness: (1) preoccupation with the past, present, and future behaviors, (2) sensitivity to inner feelings, (3) recognition of one's positive and negative feelings, (4) introspective behavior, (5) tendency to picture or imagine oneself, (6) awareness of one's physical appearance and presentation, and (7) concern over the appraisal of others (Fenigstein et al. 1975, p. 523). The SCS is a 23-item 5-point Likert scale ranging from 0 extremely uncharacteristic to 4 extremely characteristic. A factorial analysis allowed to identify three subfactors of the construct of SC: (1) private SC which refers to the tendency to attend to one's inner thoughts and feelings, (2) public SC that is an awareness of the self as a social object, and (3) social anxiety that reflects discomfort in the presence of others (Fenigstein et al. 1975). Nevertheless, some issues have been raised about the original version of SCS. Some populations such as noncollege population experienced difficulties to respond to the items: (1) they may have difficulties to understand some items because of the use of uncommon and abstract words; (2) they may be not used to reflect on attributes that are characteristic or uncharacteristic of themselves and the degree of uncharacteristicness of the attributes (Scheier and Carver 1985). For these reasons, a revised version of the self-consciousness scale has been proposed (Scheier and Carver 1985). The SCS-R meets these two requirements and includes 22 items rated on a 4-point Likert scale [from 0, extremely uncharacteristic, to 3, extremely characteristic]. Representative items are *I'm always trying to figure myself out* (example of private SC), *I care a lot about how I present myself to others* (example of public SC), and *It takes me*

time to get over my shyness in new situations (example of social anxiety). The scoring of items 8 and 11 has to be reversed. Overall, higher scores at the scale refer to greater SC. It is worth mentioning that gender had no influence on the results, with the consequence that no gender distinction was required when evaluating SC (Fenigstein 2009; Scheier and Carver 1985). The SCS has been translated into 16 languages, including Arabic, Chinese, Dutch, Estonian, French, German, Greek, Hebrew, Italian, Japanese, Persian, Polish, Portuguese, Spanish, Swedish, and Turkish (Fenigstein 2009).

Psychometric Properties

Scheier and Carver (1985) assessed the factorial structure of the original scale (Fenigstein et al. 1975), which was compared to the factorial structure of the revised version. Firstly, they noted that the factor structure of the original scale was highly stable after a 10-year period. Secondly, the factorial structures of the original and revised scales were very similar and comparable. Therefore, the revised scale can be considered as equivalent to the original one but is more adapted to evaluate SC in samples including lower education levels. The internal consistency analysis of the revised SCS was good with Cronbach alphas of .75, .84, and .79 for private SC, public SC, and social anxiety, respectively. In order to assess the stability of the revised SCS, 135 individuals completed the questionnaire twice within a 4-week period. The test-retest reliability was good for each subscale: .76, .74, and .77 for private SC, public SC, and social anxiety, respectively. In summary, reliability and test-retest reliability of the SCS-R demonstrate good psychometric properties supporting a three-factor structure.

Related Constructs

Self-consciousness research identifies strong implications of SC in different processes. *Self-attribution*: high self-conscious individuals are more likely to self-attribute the responsibility in

self-relevant situations (Buss 1980) (specially for high public self-conscious individuals (Hull and Levy 1979)). *Self-regulation*: behaviors may be related to the consciousness of self-failure or self-success for high conscious individuals (Fenigstein 1984; Hull et al. 1986). High self-conscious individuals are more sensitive to *self-discrepancy* that is the consciousness of a discrepancy that may exist between the self and standards (Baumeister et al. 2007). Individuals may be motivated to reduce unpleasant consciousness elicited by this self-discrepancy. Cognitive deconstruction refers to impairments in attentional processes that are related to this tendency to reject or avoid meaningful thoughts to protect the self (Baumeister et al. 2007) and possibly associated with self-regulation failure. Finally, private self-consciousness is related to *intensified experience of positive and negative emotions*. It remains, however, to be determined whether intensified emotional experience is caused by an increased reactivity to emotional stimuli or by an increased awareness of internal emotional state (Fenigstein 2009).

Clinical Applications

Several relations have been noted between self-consciousness and mental health disorders. Self-attention in *depression* increases self-critical thoughts, ruminations, and attention directed to self-failure, which in turn maintain or exacerbate depression. Similarly, SC associated to self-standard discrepancy increases the risk of depression (Fenigstein 2009). Moreover, high SC may exacerbate the evaluation apprehension of one's competences and may increase self-preoccupation, often resulting in *anxiety* (Fenigstein 2009). High public SC increases the concern to make a positive impression on others, which in turn increases the risk of *social anxiety* (Fenigstein 2009). Increasing the salience of one's own perspective, high public SC may reveal the tendency to consider oneself as the target of others' thoughts and actions, which may be misinterpreted as evidence for malevolent intention toward oneself and leads to *paranoid ideations*

(Fenigstein 2009). *Alcohol consumption* may be used as a dysfunctional means to reduce unpleasant SC of negative affect associated with depression and self-discrepancy (de Timary et al. 2013; Hull et al. 1986; Poncin et al. 2015). Overall, aversive SC may lead to cognitive deconstruction to escape SC, which in turn results in self-regulation failure such as suicide, binge eating, alcohol consumption, social rejection, etc.

Furthermore, it is important to evaluate client's SC in situations of therapy. The major interest for self-consciousness has initially been developed based on clinical observations from various psychological domains. Psychoanalysts supported that an increased awareness of the self is both a tool and a goal of the therapy. Humanist and existentialist approaches also support the importance of increasing the understanding of the inner thoughts. However, researches on self-consciousness support the existence of important individual differences with large consequences for the therapeutic interventions: some individuals scrutinize their inner thoughts and behaviors to the point of obsessiveness, while others are so ignorant of their inner world that they are totally unable to understand their own motivations and the origins of their actions (Fenigstein et al. 1975). Hence, therapies may be adapted to the situations and aims either at increasing self-consciousness when absent or at taking distance with self-consciousness, when it becomes obsessive. On the one hand, some therapies aim to augment private and public SC: (1) increasing the ability to reveal inner thoughts and emotions and (2) increasing the awareness of oneself as being viewed by others. Insight therapies as Rogerian or Gestalt therapies tend to direct the attention toward the self. Conversely, therapies involving the judgment of others on the self (e.g., role playing) may have an impact on public SC. On the other hand, an individual with an extremely high SC has the tendency to think obsessively about his feelings and thoughts when he experiences difficulties. Therefore, the therapist may encourage the client *not to think* about himself but rather *to focus on practical aspects and on acting to improve his situation* (Fenigstein 2009).

Conclusion

Over the years, the self-consciousness scale has demonstrated good psychometric properties. Self-consciousness has showed its important implication in different processes and its role in different mental health disorders. Therefore, SC is relevant both in research areas and in the orientations and goals of therapies.

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Self-Contained

- ▶ [Independence](#)

Self-Control

- ▶ [Delay of Gratification](#)
- ▶ [Ego Depletion](#)
- ▶ [Self-Regulation](#)

Self-Deceptive Enhancement

- ▶ [Faking Behavior](#)

Self-Definitions

- ▶ [Self-Concept](#)

Self-Determination

- ▶ [Eudaimonic Motivation](#)
- ▶ [Introjected Regulation](#)
- ▶ [Personal Growth](#)

Self-Determination Theory

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Definition

Self-determination theory (SDT) is a broad theory of human personality and motivation concerned with how the individual interacts with and depends on the social environment. SDT defines intrinsic and several types of extrinsic motivation

and outlines how these motivations influence situational responses in different domains, as well as social and cognitive development and personality. SDT is centered on the basic psychological needs of autonomy, competence, and relatedness and their necessary role in self-determined motivation, well-being, and growth. Finally, SDT describes the critical impact of the social and cultural context in either facilitating or thwarting people's basic psychological needs, perceived sense of self-direction, performance, and well-being.

Introduction

Self-determination theory (SDT; Ryan and Deci 2000) is a metatheory of human motivation and personality development. It is thought of as a metatheory in the sense that it is made up of several “mini-theories” which fuse together to offer a comprehensive understanding of human motivation and functioning. SDT is based on the fundamental humanistic assumption that individuals naturally and actively orient themselves toward growth and self-organization. In other words, people strive to expand and understand themselves by integrating new experiences; by cultivating their needs, desires, and interests; and by connecting with others and the outside world. However, SDT also asserts that this natural growth tendency should not be assumed and that people can become controlled, fragmented, and alienated if their basic psychological needs for *autonomy*, *competence*, and *relatedness* are undermined by a deficient social environment. In other words, SDT rests on the notion that the individual is involved continuously in a dynamic interaction with the social world – at once striving for need satisfaction and also responding to the conditions of the environment that either support or thwart needs. As a consequence of this person-environment interplay, people become either engaged, curious, connected, and whole, or demotivated, ineffective, and detached.

The basic components of SDT – namely, its six mini-theories – combine to provide an account of human behavior across life domains, including work (Fernet 2013), relationships (La Guardia

and Patrick 2008), education (Reeve and Lee 2014), religion (Soenens et al. 2012), health (Russell and Bray 2010), sports (Pelletier et al. 2001), and even stereotyping and prejudice (Legault et al. 2007). At the heart of each mini-theory is the idea of *basic psychological needs*; all individuals strive for and need *autonomy* (the need to feel free and self-directed), *competence* (the need to feel effective), and *relatedness* (the need to connect closely with others) in order to flourish and grow. The first mini-theory, *cognitive evaluation theory*, centers on the factors that shape intrinsic motivation by affecting perceived autonomy and competence. The second mini-theory is *organismic integration theory*, and it concerns extrinsic motivation and the manner in which it may be internalized. *Causality orientations theory* describes personality dispositions – that is, are individuals generally autonomous, controlled, or impersonal? The fourth mini-theory, *basic psychological need theory*, discusses the role of basic psychological needs in health and well-being and, importantly, outlines the manner in which social environments can neglect, thwart, or satisfy people’s basic psychological needs. *Goal content theory* is concerned with how intrinsic and extrinsic goals influence health and well-being. Finally, *relationship motivation theory* is focused on the need to develop and maintain close relationships and describes how optimal relationships are those that help people satisfy their basic psychological needs for autonomy, competence, and relatedness.

Cognitive Evaluation Theory (CET)

CET seeks to describe how both internal and external events affect people’s intrinsic motivation. Intrinsic motivation refers to engagement in activities out of enjoyment and interest rather than for the consequence or incentive attached to the behavior. Intrinsic motivation is noninstrumental in nature; when intrinsically motivated, people are not concerned with what outcome will be received or avoided by engaging in the action. Rather, they perform the behavior because it is inherently satisfying in and of itself. In contrast, extrinsic

motivation is fundamentally instrumental. People are extrinsically motivated when they are concerned with performing an action because of the consequence associated with it; behavior is contingent upon receiving or avoiding an outcome that is separable from the behavior in question.

According to CET, intrinsic motivation can be enhanced or undermined, depending on the degree to which external events (e.g., rewards, punishers), interpersonal contexts (e.g., criticism or praise from a relationship partner), and internal proclivities (e.g., one’s own trait-level tendency to feel task-engaged) affect the individual’s self-perceptions of *autonomy* and *competence*. Autonomy is the innate need to feel self-direction and self-endorsement in action, as opposed to feeling controlled, coerced, or constrained, whereas competence is the need to feel effective and masterful – as though one’s actions are useful in achieving desired outcomes. Competence underlies the seeking out of optimal challenge and the development of capacities. When external, social/interpersonal, and internal conditions facilitate satisfaction of the individual’s needs for autonomy and competence, then intrinsic motivation increases. Conversely, when autonomy is neglected or thwarted by the use of controlling events (e.g., bribes, demands, pressuring language) or when perceived competence is undermined (e.g., through negative or uninformative feedback), then intrinsic motivation declines. Early work in the spirit of CET showed that, by undercutting perceived autonomy, extrinsic motivators such as money worked to impede intrinsic motivation (e.g., Deci 1971). Follow-up research demonstrated that other external events perceived to be controlling, such as deadlines (Amabile et al. 1976) and surveillance (Plant and Ryan 1985) also diminish intrinsic motivation. Similarly, interpersonal contexts can influence intrinsic motivation, depending on whether they are perceived to be informational or controlling. For instance, although positive feedback is generally perceived as informational (i.e., supporting competence), it can be perceived as controlling (i.e., undermining of autonomy) if it is administered in a pressuring way (Ryan 1982).

Finally, internal events – that is, people’s own perceptions, feelings, and cognitions – can also make behavior feel controlling or informational. For example, people can come to feel obsessive or ego-involved in an activity and the self-esteem boost associated with it. When feelings of self-worth or identity are attached to performance in a way that it becomes necessary to perform the behavior in order to feel worthy or valuable, then the behavior will feel quite controlling (Mageau et al. 2009; Plant and Ryan 1985).

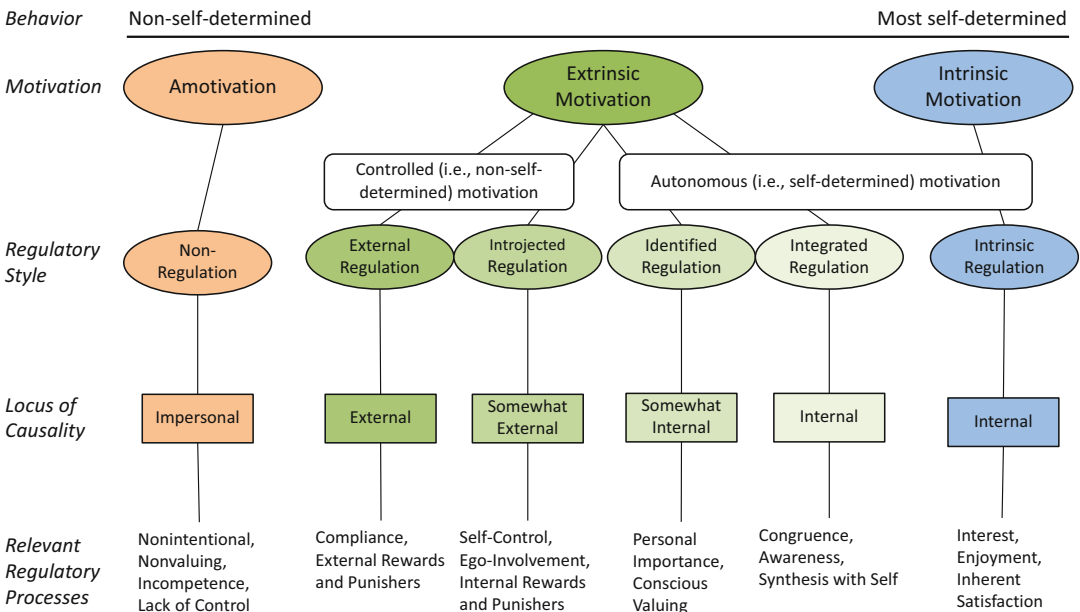
In sum, CET asserts that the context – including external forces (e.g., deadlines), interpersonal climates (e.g., praise, instruction), and internal events (e.g., being ego-involved) – affects intrinsic motivation as a function of the degree to which they are informational vs. controlling.

Organismic Integration Theory (OIT)

Whereas CET addresses the manner in which internal and environmental forces influence intrinsic motivation, OIT addresses the process by which individuals acquire the motivation to carry

out behaviors that are *not* intrinsically interesting or enjoyable. Such activities are unlikely to be executed unless there is some extrinsic reason for doing them. Extrinsic motivation refers to a broad category of motivations aimed at outcomes that are extrinsic to the behavior itself. Unlike other motivation theories and research, OIT proposes a highly differentiated view of extrinsic motivation, suggesting that it takes multiple forms, including external regulation, introjection, identification, and integration. These subtypes of extrinsic motivation are seen as falling along a continuum of *internalization* (see Fig. 1). Thus, whereas some extrinsic motivators are completely external and nonself-determined, others can be highly internal and self-determined (i.e., autonomous).

To the extent the environment satisfies people’s needs for autonomy, competence, and relatedness, OIT postulates that people will tend to integrate their experiences by internalizing, reflecting on, and endorsing the values and behaviors that are salient in their surroundings. This process of internalization is therefore spontaneous and adaptive, allowing people to sanction and cohere with their



Self-Determination Theory, Fig. 1 The internalization continuum: types of motivation according to self-determination theory

social environment. The more a behavior or regulation is internalized, the more it becomes integrated with the self and serves as a foundation for self-determined motivation. OIT suggests that regulation of behavior can become increasingly internalized to the extent that the individual feels autonomous and competent in effecting it. Relatedness plays an important role in internalization. That is, individuals will tend to initially internalize behaviors that are valued by close others. For example, if a child learns that her father, whom she admires, strongly values and cares about brushing his teeth, then she may be apt to internalize the same behavior. Ultimately, however, full internalization requires the experience of autonomy in the activity (i.e., toothbrushing must come to emanate from the self if it is truly to be endorsed and sustained). To integrate the regulation of a behavior, people must understand its personal significance and coordinate it with their needs, values, and other behaviors.

The degree to which any given behavior is internalized is critically important to successful performance and persistence of that behavior. For instance, autonomously motivated students study harder, pay more attention in class, and get better grades (Vansteenkiste et al. 2004). In the health regulation domain, autonomous motivation leads to superior self-regulation in weight loss and weight loss maintenance (Teixeira et al. 2010), as well as in smoking cessation (Williams et al. 2009). Autonomous forms of motivation also play an important role in long-term persistence in sports (Pelletier et al. 2001) and the self-control of prejudiced responses (Legault et al. 2007).

Causality Orientation Theory (COT)

Whereas CET and OIT are generally focused on how the social context influences the individual's intrinsic and extrinsic motivation by affecting autonomy, competence, and relatedness, COT is more concerned with the inner resources of the individual. *Causality orientations* are thought to develop over time and form the basis of motivation at the broad level of personality. According to COT, a developmental and social history of

autonomy-congruent experiences is likely to shape an *autonomous causality orientation* (Deci and Ryan 1985) or a trait of *autonomous functioning* (Weinstein et al. 2012), wherein the individual generally tends to regulate behavior as a function of personal interests and values, that is, based on intrinsic motivation and autonomous forms of extrinsic motivation. In contrast, those with a *controlled orientation* have a dispositional tendency to look toward controls and prompts in the environment to regulate behavior and are primarily concerned with how to behave in a way that conforms to expectations, demands, and other external consequences. The *impersonal orientation* describes those who feel a general sense of helplessness and detachment and who lack intentionality in action.

The autonomy orientation is associated positively with self-esteem and self-actualization (Deci and Ryan 1985), as well as greater daily well-being, satisfaction of basic psychological needs, autonomous engagement in daily activities, and positive daily social interactions (Weinstein et al. 2012). In contrast, having a controlled orientation is associated with self-consciousness and proneness to feeling outwardly evaluated and pressured (Deci and Ryan 1985), as well as greater interpersonal defensiveness (Hodgins et al. 2006). The impersonal orientation has been shown to be associated with self-derogation, depression, and anxiety (Deci and Ryan 1985), as well as self-handicapping, poor performance (Hodgins et al. 2006), and a fragmented identity (Soenens et al. 2005).

Basic Psychological Need Theory (BPNT)

Although the basic psychological needs of autonomy, competence, and relatedness play a focal role in SDT in general, as well as in each of its mini-theories, BPNT goes beyond these basic assumptions to specify more precisely how basic psychological needs are essential for health and well-being (Ryan and Deci 2000). BPNT also describes how contexts that support the satisfaction of basic psychological needs contribute to positive life outcomes and how contexts that thwart these

needs will exact tolling costs to functioning and wellness. Moreover, BPNT argues that the needs of autonomy, competence, and relatedness are not just essential for health but are also innate and universal – that is, they exist across individuals and cultures (e.g., Chen et al. 2015).

Autonomy (the need to experience self-direction and personal endorsement in action), competence (the need to feel effective in interactions with the environment), and relatedness (the need to feel meaningfully connected to others) are *organismic* needs. Organisms are inherently bound to and dependent upon their environment for survival. That is, the well-being of any organism depends on its environment because the environment provides it with nutrients required to thrive and develop. Just as organisms possess the physiological needs of thirst, hunger, and sleep – which must be met by environments that provide water, food, and shelter if the organism is to survive; so too do organisms have psychological needs, which are required to adapt and function in psychologically healthy ways. Research on basic psychological needs has found a robust connection between psychological need satisfaction and indices of *eudaimonic* well-being, that is, the degree to which a person experiences meaning, self-realization, and optimal functioning (not simply *hedonic* happiness, i.e., the experience of pleasure and avoidance of pain). For instance, psychological need satisfaction has been linked to openness (Hodgins et al. 2006), developmental growth and maturity (Ryan and Deci 2000), energy, vitality, positive affect, and the relative daily absence of psychological and physical symptomatology (Reis et al. 2000). In contrast, when psychological needs are unmet, individuals experience greater apathy, irresponsibility, psychopathology, arrogance, and insecurity (Ryan and Deci 2000).

The environment therefore has a profound impact on the extent to which the basic needs for autonomy, competence, and relatedness are satisfied. For instance, when external events, interpersonal relationships, and social contexts/cultures nurture and target a person's need for autonomy, then those contextual forces are said to be *autonomy supportive*. Autonomy-supportive

environments and relationships nurture the individual's inner motivational resources and intrinsic preferences by providing choice and decision-making flexibility. They also provide meaningful and useful information to help individuals internalize the motivation for their behavior. Competence satisfaction is derived from contexts and relationships that provide the individual with optimal challenge (as opposed to being overwhelming or boring), as well as structure and feedback that allow skills and abilities to develop. Satisfaction of the need for relatedness occurs when relationships are nurturing and reciprocal and, importantly, when they involve acceptance of the authentic self. Research on BPNT, and SDT in general, shows that environments that are supportive of autonomy, competence, and relatedness help to facilitate the individual's perceived sense of autonomy, competence, and relatedness, which then promotes deeper daily engagement and overall psychological health (Ryan and Deci 2000).

Goal Content Theory (GCT)

GCT relates goal contents, also referred to as *aspirations* or *values*, to well-being. GCT integrates self-determination theory with values research to suggest that basic psychological needs also drive or underlie value systems in specific ways (Kasser and Ryan 1996). That is, *intrinsic values/aspirations* emerge from the basic psychological needs of autonomy, competence, and relatedness and, in turn, the pursuit and attainment of intrinsic values works to satisfy these needs. Intrinsic aspirations include close relationships, personal growth, and community contributions. In contrast, extrinsic aspirations are geared toward obtaining external validation and proof of self-worth and instead focus on the pursuit of goals such as financial success, popularity/fame, and image/appearance. Extrinsic aspirations/values tend to emerge from need substitutes; when basic psychological needs are neglected over time, it is theorized that socially salient need substitutes can provide a placating alternative, and although the pursuit and attainment of extrinsic goals can be quite motivating, they do

not provide direct nourishment of psychological needs (Sheldon and Kasser 2008).

According to GCT, it is important to consider the role of intrinsic and extrinsic values in motivation because such values shape, guide, and organize specific behaviors and experiences. Values function to coordinate preferences, decisions, and actions that are relevant to those values/aspirations. For instance, a person who places high value on financial success will likely buy products and select acquaintances, friends, and romantic partners that help to meet, affirm, or express the value of wealth. A person who strongly values having close relationships, in contrast, will be motivated to nurture and explore intimate and lasting connections with others – perhaps by choosing and spending significant amounts of time on a selective number of meaningful relationships. Because intrinsic values/aspirations are more conducive to need fulfillment than are extrinsic values/aspirations, it may not be surprising that they are more likely to be associated with well-being. For instance, it has been found that individuals who pursue intrinsic goals experience greater personal fulfillment, more productivity, less anxiety, less narcissism, less depression, and fewer physical symptoms compared to those who pursue financial success (Kasser and Ryan 1996).

Relationship Motivation Theory (RMT)

Although the first five mini-theories of SDT are centrally concerned with the role of the social context in supporting the individual's need satisfaction, intrinsic motivation, and well-being, most of their focus is on nonreciprocal, one-way relationships, that is, on the manner in which important significant others (e.g., parents, teachers, coaches, managers) tend to support or undermine the individual's psychological needs. RMT fills a gap by describing the dynamics between partners in close relationships. While RMT notes that the basic psychological need for relatedness drives the initial desire to seek out and maintain close and meaningful relationships, satisfaction of the need for relatedness alone is not sufficient;

ultimately, optimal close relationships are ones in which each partner supports the autonomy, competence, and relatedness needs of the other.

According to SDT broadly – and RMT in particular – all human beings possess the fundamental need to feel cared for; people aim to cultivate relationships with those who value them and who are sensitive to their needs and wants. People also want to feel authentic in relationships and to know that their relationship partner understands and values their core self. While RMT rests on this need for relatedness, the first major tenet of RMT suggests that optimal satisfaction of relatedness requires also that autonomy and competence be fulfilled in the context of the relationship. For instance, it has been found that each of the three basic psychological needs contributes uniquely to important relationship outcomes, including relationship quality, security of attachment, effective conflict management, and overall personal well-being (Deci and Ryan 2014; Patrick et al. 2007; La Guardia and Patrick 2008). Overall, the more need satisfaction people experience in relationships, the more satisfied they will be with that relationship. When individuals feel as though their partner values their true self and holds them in unconditional positive regard, then relationships are more likely to flourish.

A second major proposition within RMT refers to the notion that the more people are autonomously motivated to be in relationships, the more they will experience the relationship to be fulfilling. Thus, when people enter and persist at relationships for personal, autonomous reasons (e.g., because they feel that the relationship is important and meaningful) rather than controlled reasons (e.g., because they feel like they should be in the relationship), they show greater relationship satisfaction, better daily relationship functioning, and greater overall well-being (Deci and Ryan 2014). Interestingly, the important role of autonomous motivation extends to relationships with social groups; when individuals feel autonomously motivated to be part of a group (e.g., being Black, being German, being Catholic, being part of a team or organization), they experience more positive group identity (Amiot and Sansfaçon 2011).

A final key component to RMT is that people desire mutuality in close relationships. Therefore, not only do people benefit from receiving need support from their partners, but they also benefit by giving it (Deci et al. 2006). To feel truly related to another person, not only do people want to feel genuinely accepted and cared for, but they also want their partners to feel the same way, that is, they want others to want to form close connections with them, and they want to be able to offer their partners unconditional support and regard in return. RMT, in sum, suggests that optimal close relationships between partners are complex and require more than warmth and attachment.

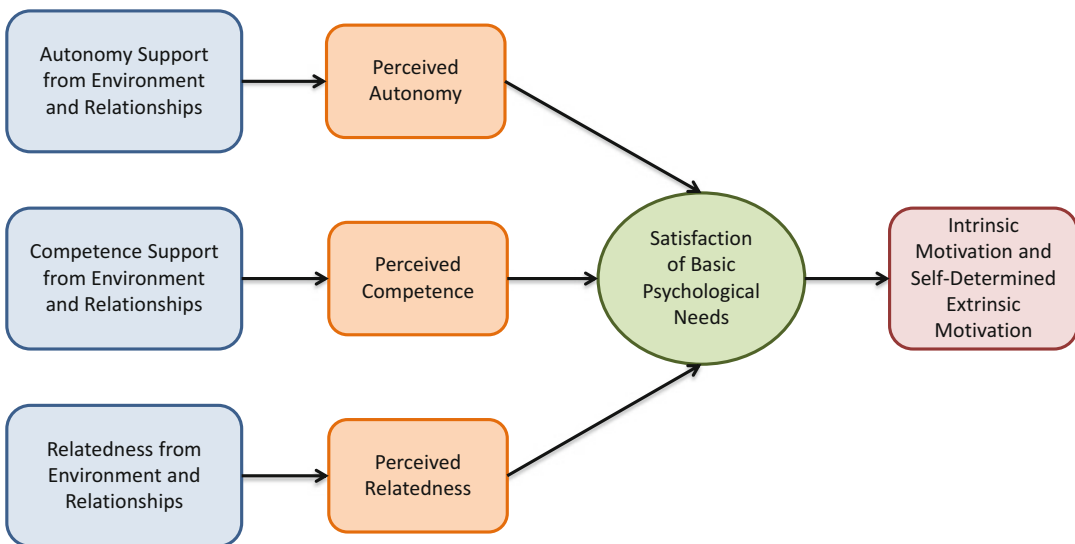
and events in satisfying these basic psychological needs and the subsequent effect on intrinsic and autonomous forms of extrinsic motivation. When people are exposed to and involved in opportunities that allow for personal initiative and self-direction, as well as optimal challenge and positive social interactions, autonomous motivation thrives, and they are likely to feel interested and engaged.

Summary: Putting It All Together

Self-determination theory offers a broad framework for understanding human motivation and personality by defining the psychological nutrients required for optimal motivation, engagement, and well-being. SDT underscores the idea that people’s relationships and social contexts must involve and support their fundamental human needs for autonomy, competence, and relatedness. Figure 2 helps to summarize the role of contexts

Conclusion

Self-determination theory has been supported by more than four decades of research. The success of the theory can be attributed to its degree of comprehensiveness and testability. That is, SDT outlines very clear, detailed, dynamic, and verifiable propositions that apply to needs and motivations across life spheres, including classrooms, organizations, families, teams, clinics, and cultures. SDT is therefore both broad and specific, as it provides detailed accounts of how social and cultural forces impact personality development and global motivational orientation, as well as behavioral responses within particular domains and tasks. Recently, SDT has begun to



Self-Determination Theory, Fig. 2 The role of need satisfaction in motivation according to self-determination theory

receive attention at the level of the brain as well, showing that autonomous/intrinsic motivation and controlled/extrinsic motivation map onto distinct neurophysiological structures and functions (e.g., Legault and Inzlicht 2013; Marsden et al. 2014). Arguably, the future of SDT will rest in its applicability to the practice of motivating self and others; by applying the basics of SDT, parents, teachers, coaches, managers, romantic partners, and peers can help individuals enhance their creativity, meaning, and enjoyment.

Cross-References

- ▶ Fully Functioning Person
- ▶ Introjected Regulation
- ▶ Need for Autonomy, The

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Self-Development

► Personal Growth

Self-Dialogue

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Synonyms

Inner dialogue; Introspection; Self-talk

Definition

Self-dialogue is a procedure involving a heuristic approach to inquiry. It is centered on the person that experiences the phenomenon being investigated with the goal of attainment or realization of tacit knowledge regarding a phenomena experienced within the investigator, which remains latent to the *researcher-as-participant* until an inner-directed self-search is conducted through self-dialogue.

Introduction

In conducting heuristic research, the researcher-as-participant of a qualitative study will inquire into a potentially troubling or deeply concerning topic relating to events or experiences that have transpired in the investigator's life (Moustakas 1990). Multiple procedures inform heuristic research, including reidentifying with the focus of inquiry, self-dialogue, tacit knowing, intuition, indwelling, and focusing. As part art, part science, heuristic research utilizes many topics, tools, techniques, and best practices. Part of the art of heuristic research is to know which tool or best practice to apply to each particular investigation to ensure success. Although there is an identifiable protocol in the designated six phases of heuristic research, each procedure is nonlinear, and no specific analysis is required to include every procedure listed, but the expectation in incorporating Moustakas' approach is that the overall research be sound and complete enough to deliver the inner experience of success, which allows the researcher to feel inner connection with that which was sought in the investigation. This occurs by incorporating best practices throughout the research life cycle. The importance of self-dialogue is critical to this method of inquiry and is evident in the French philosopher Descartes' (1637 & 1941/2009) most famous idiom "I think; therefore, I am," suggesting that the context in which human experience of existence is situated within a phenomenological framework established in self-dialogue. It is important to notice that intuition, or the observation of one's

thoughts and mental processes, is not synonymous with self-dialogue.

Methods of Accessing Self-Dialogue

Journaling, which is a popular method of freewriting, is a common method the researcher might use to make explicit that which is implicit pertaining to one's experience (Douglass and Moustakas 1985). Though words will not tacitly specify the phenomenon under investigation, words drawn from a place of inner experience can create a resonance within the self that can be telegraphed to readers. Moustakas (1990) indicated that the process of inner heuristic research is not about timetables or plans to conduct research, but conducting the research arises from the inner dimensions of the self that cause the researcher to become fully focused – day and night – on the research that is calling out to be understood. He indicated that an authentic heuristic inquiry possesses the researcher who surrenders to the timetable of what is being researched, rather than attempting to control the process:

[The process of] becoming one with what one is seeking to know . . . [a] dialogue with the phenomenon, allowing the phenomenon to speak directly into one's own experience and be questioned by it . . . [is] the critical beginning; the recognition that if one is going to be able to discover the constituents and qualities that make up an experience, one must begin with oneself. (Moustakas 1990, p. 16)

Conversing with a phenomenon, and allowing that phenomenon to color and direct, and in turn be influenced by, our experience, is the heart of Moustakas' (1961) description of self-dialogue. Moustakas (1961) created his theory of heuristic-based research largely on the philosophical concept of phenomenology. Blackburn (2016) in the *Oxford Dictionary of Philosophy* partially defined phenomenology as “the study of what it means to pursue a particular form of life, regardless of whether anything that is said in following it out is true or false” (p. 359). Another explanation for phenomenology is that it is the study of the structures of experience, both human and nonhuman, and how experience relates and corresponds to

consciousness. As a phenomenological inquiry, phenomenology delves into the one's first-person, individualized encounter with the world and the level and disposition of the awareness brought into that engagement:

I want to know what it is like for a *bat* to be a bat. Yet if I try to imagine this, I am restricted to the resources of my own mind, and those resources are inadequate to the task. I cannot perform it either by imagining additions to my present experience, or by imagining segments gradually subtracted from it, or by imagining some combination of additions, subtractions, and modifications. (Nagel 1974, p. 439)

In other words, since every moment from vantage of human or bat or other organism is lived as a single point of view, objective experience cannot exist regarding the subjective experience of that being. All experience is subjective, making self-dialogue all the more vital. What is not critical is Nagel's ability to tap harmoniously into the precise phenomenology of a bat, only that his experience of what he imagines that bat encounters in its world is considered. Beginning with oneself entails mindfulness of one's immediate experience. After all, the present moment is all that exists. The bat cannot write about the experience of being a bat. One can only write about the observed behavior of a bat. However, studying bat anatomy and physiology extensively and observing the behaviors of bats in their natural environment, as illuminating as this might be, cannot communicate what bats actually experience.

When we identify ourselves as the focus of inquiry in research, whether it is for scholarly purposes or personal edification, the overarching goal is to draw us closer to facing ourselves. The core self of the individual need not be the defining phenomena examined; however, the focus of heuristic inquiry is the core self in relation to the phenomena being studied: someone experiencing a debilitating medical condition, or any sort of physical malformation that inhibits daily functioning to an extent, can benefit from self-dialogue. A woman in her early 50s who has recently reached menopause, with a simultaneous diagnosis of osteoporosis, might consider calm discussion with her bones and marrow to interpret how her bones are feeling, if they are in need of or

craving a dietary supplement or more strenuous physical activity from her or if an emotional basis of trauma is potentially linked to sudden endocrine disturbances or weight loss.

Art journaling in the form of painting pieces of artwork, transcribing musical lyrics or guitar tablature, writing the undercurrents and events of dreams upon waking each morning, or a film recording of items of places of sentimental value can induce self-dialogue.

As Moustakas (1990) articulated, documentation of one's immersion in self-dialogue is a critical component of heuristic research; the record-keeping, from an existential point of view, affirms the researcher-as-participant's experience of life, offering immediate feedback for his or her own conscious and unconscious thought patterns, feelings, emotions, desires, trauma, and yearnings that direct to greater insight of the individual. Moustakas (1961), in writing *Loneliness*, told the story of his experience as a father facing his inner struggles regarding a time when his young child was hospitalized. This experience caused him to begin research on loneliness, and from this experience his work related to *Heuristic Research* (1990) was formulated. After reading his work, Sela-Smith (2001) commented:

[Moustakas'] initial focus was on his internal feelings of loneliness associated with a personally-experienced crisis that needed to be overcome. The secondary focus was his abstraction of the initial focus, which shifted the research away from feeling of the painful experience, to objective, cognitive understanding based on other participants' abstractions of their experiences. . . . This resulted in a split in attention, with the consciously aware-self moving away from feeling the pain. (p. 18)

Sela-Smith addressed the working of self-dialogue in describing Moustakas' (1961) analysis of loneliness in which there is an internal struggle that cries out to be understood. In switching focus away from his substantiated and experienced frame of reference fixated on the emotion of his loneliness, he resisted encountering himself in relation to loneliness and instead focused on the phenomenon of loneliness. Moustakas, as Sela-Smith added, relied on qualitative data from research collected from other participants. In an attempt to understand his feeling on loneliness, he looked everywhere except

within his own phenomenological encounter with himself experiencing loneliness. Therefore, he lost an opportunity to utilize his own concept of self-dialogue by allowing loneliness that dwelled within him to speak directly to him. Potential questions that Moustakas could have postulated might have been, "Loneliness, what are you attempting to reveal to me or show me?" "Loneliness, what positive qualities do you possess that you can show me, such as, what your presence within me might indicate to me about my worldview?" "Loneliness, show me the first time I ever experienced you. What did I come to believe about myself and the world when you became a part of my inner experience?" Examining the abstract variables of the experience of loneliness, and befriending loneliness, through metacognition and meta-reasoning, the researcher using self-dialogue could have led to an encounter with the self, which may have had the potential to be a transformative experience.

When a researcher finds some concern, some issue, or some experience that is not understood arising from within that seems to demand a researcher's attention, the inquirer might pose the following question, "What is this phenomena that is of interest to me?" Hence, the researcher must "be willing to use feeling to enter the tacit dimension, and allow intuition to make connections in the structures of tacit knowledge" (Sela-Smith 2002, p. 63). The tacit dimension includes but is also beyond the confines of social upbringing and tradition. Information and knowledge gleaned tacitly is done so preverbally, as no words need to be used to direct us to what is calling out to us to understand or determine what is to be found. Intuition propels the self-dialogue process through abstract reasoning that initiates connections in thought that otherwise might not have been uncovered without engaging with the tacit dimension. No facet of the researcher-as-participant's experience is off limits – the cognitive, behavioral, spiritual, sensory, kinesthetic, physiological, emotional, and interpersonal dimensions to life all help inform self-dialogue and must be utilized in conjunction with one another in unison. One must allow for whatever emerges in the dialectic process to have a voice, without judgment or restraints.

Conclusion

Personality psychology peer-reviewed literature seldom addresses self-dialogue, although scholars reading the 5th edition of the *Diagnostic Manual for Mental Disorders* (American Psychiatric Association 2013) find that the American Psychiatric Association interprets phenomena such as hearing voices or chronic uttering to oneself in public in a manner deemed disruptive and uncivilized, to be indicative of mental illness. James (1891/2007) in *The Principles of Psychology* argued that what one labels as “I” contains continuity, distinctness, and volition. That is, people see themselves as distinct from other beings, through a longitudinal appropriation of thoughts constructing a personal identity.

Nagel (1974) noted that humans are limited to the finite resources of the mind. Self-dialogue attempts to overcome this epistemological diminishment to guide the researcher “to attain[ing] of the phenomenon being explored through self-exploration and self-disclosure” (Sultan 2015, p. 121). Self-dialogue is often confused with internal dialogue, which usually refers to a conversation based inside, not with someone else but unspoken with oneself. Even if another party is not involved in the conversation, it is still considered a dialogue as opposed to a monologue. For instance, when I go about making a decision regarding the most appropriate response to a particular situation on any given day, I am likely to utilize internal dialogue to run through different approaches on addressing the situation in the most optimal way for me. Instead of pathologizing self-dialogue as mental illness, humans could benefit from discovering the most effective use of self-dialogue to understand the self and to solve problems faced in daily life.

Cross-References

- ▶ [Personal Intelligence](#)
- ▶ [Self](#)
- ▶ [Self-Reflection](#)

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Self-Directedness

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Synonyms

[Agency](#); [Autonomy](#); [Internal locus of control](#); [Self-efficacy](#); [Self-reliance](#)

Definition

Self-directedness (self-concept) is one of the three aspects of human character in Cloninger’s biopsychosociospiritual model of personality (Cloninger et al. 1993). This character trait involves a person’s sense of responsibility, hopeful purpose, self-acceptance, self-actualization,

and resourcefulness (Cloninger 2004). See Cooperativeness and Self-transcendence for the other two aspects of human character.

Introduction

Self-directedness can be seen as the executive branch of a person’s system of mental self-

Self-Directedness, Table 1 The five subscales that compose the Self-directedness (SD) scale of the Temperament and Character Inventory

High scorers		Low scorers
Tend to feel free to choose what they will do. They recognize that their attitudes, behaviors, and problems generally reflect their own choices. Consequently, they tend to accept responsibility for their attitudes and behavior. They are reliable and trustworthy	(SD1) responsibility versus blaming	Tend to blame other people and external circumstances for what is happening to them. They feel that their attitudes, behavior, and choices are determined by influences outside their control or against their will. Consequently, they tend not to accept responsibility for their actions
They have a clear sense of meaning and direction in their lives. They have developed the ability to delay gratification to achieve their goals	(SD2) purposefulness versus lack of goal-direction	Tend to struggle to find direction, purpose, and meaning in their lives. They are uncertain about long-term goals, and thus feel driven to react to current circumstances and immediate needs. They may feel that their life is empty and has little or no meaning beyond the reactive impulses of the moment
Usually described as resourceful and effective. They impress other people as productive, proactive, competent, and innovative individuals who rarely lack ideas on how to solve problems or initiative in identifying opportunities to solve problems. Indeed, they tend to look at a difficult situation as a challenge or an opportunity	(SD3) resourcefulness versus inertia	Impress others as helpless, hopeless, and ineffective. These individuals have not developed skills and confidence in solving problems and thus feel unable and incompetent when faced with obstacles. Typically, they tend to wait for others to take the lead in getting things done
Self-confident individuals who recognize and accept both their strengths and limitations. In other words, these individuals try to do the best that they can without pretending to be something they are not. Rather, they seem to accept and feel very comfortable with their actual mental and physical features, although they may try to improve these limitations by constructive training and effort	(SD4) self-acceptance versus self-striving	Tend to manifest low self-esteem. They neither accept nor enjoy their actual mental and physical features. Rather, they often pretend to be different than they really are. That is, they tend to fantasize about unlimited wealth, importance, beauty, and perpetual youth. When confronted with evidence to the contrary, they may become severely disturbed
These individuals have developed a spectrum of goal-congruent, good habits so that they automatically act in accord with their long-term values and goals. This is achieved gradually as a consequence of self-discipline, but eventually becomes automatic. These habits usually develop through repeated practice and are typically stronger than most momentary impulses or persuasion. In other words, these individuals rarely confuse their priorities and thus feel safe and self-trusting in many tempting situations	(SD5) self-actualizing versus bad habits	These individual manifest habits that are inconsistent with and make it hard for them to accomplish worthwhile goals. Others sometimes perceive these peoples as self-defeating and weak-willed. In other words, their will power appears to be too weak to overcome many strong temptations, even if they know that they will suffer as a consequence

government. People who are self-directed recognize that their attitudes, behaviors, and problems reflect their own choices. They tend to accept responsibility for their attitudes and behavior and they impress others as reliable and trustworthy persons. As a result, a person's Self-directedness is an important indicator of reality testing, maturity, and vulnerability to mood disturbance. Self-directedness is high in people who are mature and happy (Cloninger 2013), whereas it is low in people with personality disorders and those vulnerable to psychoses and mood disorders (Cloninger et al. 1997; Cloninger and Cloninger 2011).

Measurement

Self-directedness is measured using the Temperament and Character Inventory (Cloninger et al. 1994). Self-directedness is composed of five subscales: responsibility versus blaming (SD1; e.g., "I often feel that I am the victim of circumstances," reverse coded), purposefulness versus lack of goal direction (SD2; e.g., "My behavior is strongly guided by certain goals that I have set for my life"), resourcefulness versus inertia (SD3; e.g., "I usually look at a difficult situation as a challenge or opportunity"), self-acceptance versus self-striving (SD4; e.g., "I often wish I was stronger than everyone else," reverse coded), and self-actualization (formerly Congruent Second Nature) versus bad habits (SD5; e.g., "Many of my habits make it hard for me to accomplish worthwhile goals," reverse coded). See Table 1 for details on high and low scorers in these subscales (see also <https://tci.anthropedia.org/en/>).

Conclusion

The degree of Self-directedness refers to the degree to which something is meaningful and purposeful. A person with low Self-directedness is unaware of her own responsibility for what she does, so she blames other people and external circumstances (as in personality disorders) or denies awareness of their own agency (as in conversion disorders). Indeed, in clinical practice

there are three distinguishable pathways that lead to a downward spiral. Decreases in, or underdevelopment of, Self-directedness leads through a pathway in which the person ignores reality by illusory or distorted thinking, as in borderline, narcissistic, or psychotic disorders (Cloninger 2004).

We know that character develops in directions that correspond to socially sanctioned norms (Josefsson et al. 2013), but we know little about the details of the psychobiological mechanisms by which such sociocultural learning occurs. The processes of purposefulness and self-actualization requires regulating and cultivating particular lifestyle habits consistent with personally chosen goals and values, which requires personal discipline but also may be strongly reinforced or extinguished by cultural effects. Self-directedness, specifically, can be seen as the expression of hope among humans, because self-directed individuals can let it go from struggles that impede their well-being, since the trust in their own capability to cope and exhale even under difficult conditions.

Cross-References

- ▶ Cooperativeness
- ▶ Self-Transcendence
- ▶ Temperament and Character Inventory (TCI)

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Self-Disclosure

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Synonyms

Openness

Definition

Self-disclosure is a process of communication through which one person reveals information about himself or herself to another (Sprecher et al. 2013). It includes everything an individual chooses to tell the other person about himself or herself. Specifically, the information disclosed can be descriptive or evaluative and can vary, for example, from thoughts, feelings, and goals to failures and dislikes (Ignatius and Kokkonen 2007).

Introduction

The process of self-disclosure, when people share personal information about themselves to another, aids the development and sustainment of social relationships (Sprecher et al. 2013). That is, people who have higher levels of self-disclosure, thus share more intimate details, are in general more liked by the people they interact with (Collins and

Miller 1994). However, this process is not a one-way street; one of the most important factors in the process of self-disclosure is *reciprocation*; both in initial interactions and even more so in established relationships between people (Collins and Miller 1994; Sprecher et al. 2013). Research shows that reciprocation of self-disclosure and specifically when this happens in turns between conversation partners (i.e., disclosing partners take immediate turns when sharing information), will not only increase the liking ratings of new conversation partners (and with that the willingness to continue interactions), it will also enable new interactions to evolve into close relationships (Collins and Miller 1994; Ignatius and Kokkonen 2007; Sprecher et al. 2013). Moreover, reciprocation of self-disclosure is essential for intimate relationships (Tolstedt and Stokes 1984). In contrast, research suggests that when self-disclosure is not reciprocated, is not immediate, does not match partners' disclosure level, or when the information is rather superficial, this will result in lower liking ratings of conversation partners, lower consecutive disclosure levels, and potentially lower likelihood of future interactions (Collins and Miller 1994; Sprecher et al. 2013).

Dimensions of Self-Disclosure

There are two dimensions of self-disclosure; these influence both reciprocity and development and sustainment of relationships. The first dimension is *breath* which refers to the range of topics and/or the amount of information that is shared. Whilst *depth* refers to the content of what is shared. Specifically, how private, intimate, or personal the shared information is (Tolstedt and Stokes 1984; Taddei and Contena 2013, also see social penetration theory). Intuitively, self-disclosure between conversation partners who do not know each other is quite superficial. That is, the breath and depth of topics discussed between these partners is limited. By self-disclosing and/or reciprocating this act of information sharing, the breath and depth increase, and more intimate relationships can start to build. Additionally, to increase and/or sustain the intimacy levels within

established relationships, the breath and depth of the shared information needs to stay at a high level or increase even more. This means that the variety of topics and personal feelings toward these topics are disclosed in breath and depth (Tolstedt and Stokes 1984; Collins and Miller 1994; Taddei and Contena 2013). However, it is important that the level of self-disclosure is appropriate. When too much information is shared (both breath- and depth-wise) early on in a conversation or relationship, or disclosure is too fast, it can have an adverse effect on the developing social relationship (Tolstedt and Stokes 1984; Ignatius and Kokkonen 2007).

Online Self-Disclosure

An area of interest in more recent research is online self-disclosure (e.g., Taddei and Contena 2013; Desjarlais et al. 2015). Just like in real-life situations, online self-disclosure enables the development of relationships and is influenced by reciprocity and breath and depth of the information disclosed (Taddei and Contena 2013). Overall findings suggest that online self-disclosure is facilitated due to anonymity; real identities do not need to be revealed in computer-mediated communication, which allows people to self-disclose faster and more than they would in real-life situations. This naturally, can have positive effects; for example, shy people are more likely to disclose online – they feel less intimidated – and consequently are able to develop relationships they would not have in real life (Taddei and Contena 2013). However, anonymity can also have negative effects, that is, people are less restrained in expressing unpopular opinions when they consider themselves to be anonymous (Taddei and Contena 2013). (For an overview of online self-disclosure, see Desjarlais et al. (2015)).

Conclusion

Self-disclosure can be seen as a fundamental aspect of social (intimate) interactions. The level of self-disclosure has a direct effect on how people

evaluate their partner. People disclose more to people they like and in turn are liked more due to this disclosure (Collins and Miller 1994). Moreover, when this disclosure is reciprocated, the breath and depth of information communicated will increase (Sprecher et al. 2013), which if appropriate, can result in the development of an intimate relationship.

Cross-References

- ▶ [Disclosure Reciprocity](#)
- ▶ [Openness](#)
- ▶ [Sociability](#)
- ▶ [Social Interaction](#)

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Self-Disclosure Reciprocity

- ▶ [Disclosure Reciprocity](#)

Self-Discrepancies

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Synonyms

Self-inconsistency; Imbalance; Incongruity
Cognitive dissonance

Introduction

The term “self-discrepancies” refers to the presence of incompatible or conflicting beliefs about one’s self, with negative consequences on the person’s well-being. Self-discrepancy theory (Higgins 1989) describes how individuals are likely to experience discomfort when they are holding conflicting or incompatible beliefs about themselves. Moreover, the type of discrepant self-representations explains the kind of discomfort or unpleasant feelings.

Self-Discrepancy Theory

There was no doubt that a person’s concept of self is a primary source of emotional-motivational difficulties. Still, it is unclear why some people suffer from dejection-related problems (e.g., sadness or disappointment), while others are predisposed to agitation-related problems (e.g., fear or restlessness). The self-discrepancy theory addressed the individual differences problem, by creating a general framework useful to predict different outcomes (i.e., dejection-related and agitation-related problems).

In his self-discrepancy theory, Higgins (1987) describes two cognitive dimensions that underline the various self-state representations: the domains of the self and the standpoints (or sources) of the self. The domains of the self are the actual self (i.e., what we think we are), the ideal self (i.e., what we would ideally like to be), and the ought

self (i.e., what we believe we ought to be). Each of these domains can be considered both from your own personal standpoint and from the standpoint of some significant other.

Main Types of Self-Discrepancies and Their Corresponding Negative Emotions

We are motivated to reach a condition where our actual self matches our ideal and ought self. The vulnerability to negative emotions results from any mismatch between the actual self and the ideal self, or between the ideal self and the ought self. People can possess discrepancies between all the facets of the self, they can lack any meaningful discrepancy or they can have many different kinds of discrepancies. The emotional consequences increase when the discrepancy between two self-facets increases, and when this discrepancy is readily available to the person in question.

From Higgins’ (1987) perspective, the discrepancies between the actual self and the ideal self can lead to vulnerabilities toward different types of negative emotions, depending on the standpoint of the ideal self. The vulnerability to disappointment, to dissatisfaction, and to frustration is the result of the discrepancy between the present state of his/her actual attributes (i.e., actual self, from own perspective) and the ideal state that he or she wishes to acquire (i.e., the ideal self, from own perspective). However, things are different if the standpoint of the ideal self changes (i.e., the standpoint of a significant other). The individual will be vulnerable to feelings of shame and embarrassment if there is a discrepancy between his or her own actual self and how he or she believes others are construing his or her ideal self (i.e., the ideal self, from the standpoint of a significant other). This is because people believe they have failed to attain the hopes and wishes that a significant other had for them.

Another type of self-discrepancy that can generate negative affect is between the actual self and the ought self. There is a vulnerability toward feelings of guilt, self-contempt, and uneasiness when individuals have discrepant perspectives on the own actual self and on the own ought self. In other words, people will tend to feel

worthless and weak when they believe they are transgressing a personal moral standard. If the ought self is perceived from the standpoint of a significant other, any discrepancies between it and the own actual self will enhance the predisposition toward fear and threat. This is because the failure to achieve duties prescribed by others is associated with the expectation of punishment. The feeling of resentment might also arise in this case (i.e., discrepancy between the own actual self and the ought self as seen from the perspective of a significant other), as an anticipation of the punishment and pain inflicted by others, or as a consequence of not behaving according to the obligations.

Assessment of Self-Discrepancies

The Selves Questionnaire is a traditional, idiographic measure created by Higgins et al. (1985). The respondents have to provide up to 10 traits or attributes for each domain of the self (actual, ideal, and ought self). The questionnaire is administered in two sections: the first section refers to the “own” standpoint (e.g., how do you describe your actual, ideal, and ought self) and the second section refers to the standpoint of a significant other (e.g., how would your mother, father, or close friend describe your actual, ideal, and ought self). After generating the sets of traits, the respondents rate them using a Likert scale, and discrepancy scores are calculated using these ratings. Nomothetic measures of self-discrepancy (e.g., Hoge and McCarthy 1983) use fixed lists of adjectives and also compute discrepancy scores using respondent ratings. More recently, Hardin and Lakin (2009) developed a measure that integrates idiographic and nomothetic methods: Integrated Self-Discrepancy Index (ISDI – see Hardin and Lakin 2009 for a broader discussion).

Implications of Self-Discrepancies

Self-Regulation and Motivation

Motivation is understood as people’s tendency to reduce discrepancies between their current state (actual self) and desired end-states (ideal or ought self) (Higgins 1998). Higgins (1987, 1989) used the self-discrepancy theory to describe two different strategies of adjusting pain and pleasure: one

that is guided by an approach motive and another that is guided by an avoidance motive. The two strategies of regulating pain and pleasure depend on which end-state is taken as reference: either the ideal self or the ought self. If the ideal self is taken as a reference, people try to obtain positive outcomes that will allow for their actual self to become more similar to their ideal self (e.g., fulfilling their hopes, wishes, and aspirations). Thus, they are guided by an approach motive, or they have a promotion focus. Otherwise, having the ought self as a reference means that people’s strategy is to avoid the negative effects that may arise from unfulfilled obligations or duties. Hence, they are guided by an avoidance motive, or they have a prevention focus.

This development of the self-discrepancy theory suggests that people might experience the world in different ways, depending on their self-regulation strategy. Higgins (1997) found that some people’s perception is guided by objects and events that make them happy or sad, while other people tend to perceive objects and events that either make them feel relaxed or nervous. This might, in turn, lead to different behaviors. For instance, individuals with a promotion focus might try to earn extra money to buy something. Otherwise, having a prevention focus might prompt people to abstain from buying unnecessary things to afford something they like.

Clinical Psychology and Interventions

The applicability of self-discrepancy theory has also been studied in clinical settings. Scott and O’Hara (1993) found higher levels of self-discrepancy in the case of individuals with anxiety or depressive disorders, as compared to participants that did not have those disorders. In particular, depressed participants had higher levels of discrepancies between the actual self and the ideal self, as compared to a nonclinical sample. Anxious subjects showed larger discrepancies between the actual self and the ought self, as compared to subjects that did not have symptoms of anxiety.

Veale et al. (2003) investigated the Body Dysmorphic Disorder form the perspective of the self-discrepancy theory and reported that patients

diagnosed with this disorder are more concerned with their own aesthetic standard (ideal, own self), rather than the perceived ideals of other people (ideal, other self). Based on this finding, Veale et al. (2003) concluded that patients with Body Dysmorphic Disorder are more similar to depressed patients, as opposed to social phobic, paranoid, or bulimic patients who are more pre-occupied with the perceived demands of others.

Paranoid symptoms have been investigated concerning the “self” versus “other” standpoints on the self, as described by the self-discrepancy theory. Contrary to expectations, Hartmann et al. (2014) found that paranoid symptoms are not uniquely related to the “self-other” discrepancies because they can also be triggered by “self-ideal” discrepancies.

Strauman et al. (2001) concluded that self-discrepancy is one of the few variables that can be changed with psychotherapy, but not with pharmacotherapy. Another study (Crane et al. 2008) found preliminary evidence that mindfulness-based cognitive therapy may help recovered depressed patients to reduce the extent to which self-discrepancies associated with depression re-emerge over time.

Compulsive buying is another dysfunctional phenomenon that has been approached through the lens of self-discrepancy theory. Dittmar (2005) described compulsive buying as an identity-seeking behavior that has different predictors for women and men. While men’s compulsive buying behavior is mainly driven by materialistic values, women’s compulsive buying is a function of both materialistic values and self-discrepancies. These findings suggest that treatment should address the underlying chronic self-discrepancies, to provide long-term relief. Hence, psychopharmacological agents or debt counseling alone would not be enough and should be used in combination with psychotherapy.

Conclusion

Self-discrepancy theory links different kinds of emotional vulnerabilities to mismatches

between the various self-state representations. The notion of self-discrepancy contributes beyond the mere negativity of the self-concept or self-esteem (Rosenberg 1965), because it helps to discriminate the particular kind of discomfort (i.e., dejection-related or agitation-related) that a person will experience. The theory can be used in research and practice to tackle issues of self-evaluation, emotional responses, but also motivation, evaluation of others, and interpersonal relations.

Cross-References

- ▶ Actual Self
- ▶ Ideal Self
- ▶ Ought Self
- ▶ Self-Concept
- ▶ Self-Knowledge
- ▶ Self-Schema

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Self-Disparaging Humor

- ▶ [Model of Humor Styles](#)

Self-Effacement

- ▶ [Modesty: Implications for Achievement](#)

Self-Effacing Solutions

- ▶ [Moving Toward People](#)

Self-Efficacy

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Synonyms

[Perceived behavior control](#); [Self-efficacy beliefs](#); [Self-efficacy expectations](#)

Definition

Belief in one's own competences in face of impediments.

Introduction

Self-efficacy is a key construct within several theories and was found in studies to be the strongest predictor of motivation/intention and behavior/action. It was first introduced by Albert Bandura in 1977, originating from his work on social learning. In one of his earlier publications (Bandura and Walters 1963), he focused mainly on self-control, and this laid the foundation for the concept of self-efficacy.

History of Self-Efficacy

Self-efficacy is the belief in one's own competences to perform a behavior in spite of barriers, e.g., "I am capable of adhering to my exercise schedule in spite of the temptation to watch TV" (from Schwarzer et al. 2011, p. 163). Some definitions also mention that self-efficacy reflects having an influence over events that affect one's life. This view draws on *outcome expectancies*, another important factor in Bandura's *self-efficacy theory*. Bandura later developed his self-efficacy theory further into the *social-cognitive theory*, in which he considered other factors, such as goal

setting. This is important because the behavior in question should not be too easy and not be habituated. Thus, a more concrete definition of self-efficacy would read: belief in one's own competences to perform an *intended* behavior in spite of barriers. However, some authors also propose that there is a specific self-efficacy for setting the goal for behavior change. Hence, there might be *stage-specific self-efficacies* for setting the goal, for initiating the behavior, for maintaining the behavior, and for resuming the behavior after a break.

The inclusion of *barriers* is important because only in face of obstacles do self-efficacious individuals perform better than those with low self-efficacy. In other words, people perform better in more challenging domains if they have the self-efficacy that is specifically required. Thus, self-efficacy is very specific for individuals, times, and tasks. A *general self-efficacy* can be transferred to specific domains, but the *specific self-efficacy* has more potential to explain actual performance. Self-efficacy describes not the number of skills a person actually has but rather what he/she (subjectively) believes he/she can manage with his/her skills under specific circumstances and barriers.

Content of Self-Efficacy Expectations

Self-efficacy expectations are *behavior specific*: a person can have high self-efficacy to, e.g., resist eating candy, whereas he/she may have low self-efficacy toward resisting binge drinking at a party. Self-efficacy expectations are also *context-specific* and specific for different *phases or stages* of the behavior change process: Self-efficacy influences all phases/stages of behavior change, including behavior adoption, inhibition of existing behaviors and routines, and the transfer of behavior-specific competences from one domain to another.

In that sense, if a person has high self-efficacy regarding one particular behavior or a specific task, he/she will approach difficult tasks as challenges to be mastered rather than as threats to be avoided. High self-efficacy enables individuals to choose rather challenging goals, to more actively

commit to goals they have set, and to persist toward goals, striving more strongly in the face of unexpected barriers or even intermediate failures with goal attainment. High self-efficacious individuals are more likely to attribute failure to inadequate effort, knowledge, or skills than are people with low self-efficacy.

A person can have very different levels of self-efficacy for different behaviors, contexts, and phases of behavior enactment. Thus, some authors have defined self-efficacy in more detailed terms as being specifically related to different challenging situations, such as *social self-efficacy* (specifically for social circumstances), *skills self-efficacy* (for difficult behaviors), or phase-/stage-specific self-efficacy, i.e., for different behavioral phases/stages. Such phase-/stage-specific self-efficacy has been differentiated into *motivational* versus *volitional self-efficacy*, *action*, *maintenance/coping*, and *relapse* self-efficacy (De Vries et al. 2017).

Self-Efficacy in Different Theories and Behavior Change Models

Several prominent theories of behavior change include self-efficacy as a main factor. The *trans-theoretical model* (TTM; Prochaska and DiClemente 1983) originated in an effort to aggregate different theories and techniques. One such theory was the self-efficacy theory of Bandura, taking into account self-efficacy. Another construct in the TTM is the *stage* concept: People differ with respect to different cognitive, motivational, and behavioral aspects of self-efficacy and exhibit corresponding mind-sets or behavioral patterns (comparable to the above described phases of behavior change, also called *readiness to change*).

In the early stages, when no goal behavior is shown and people have not yet made the decision to change, self-efficacy is low. Only when individuals have set the goal of behavior adaptation and prepare for it does self-efficacy increase. Those who have performed the behavior already have the highest levels of self-efficacy. This is a *cross-sectional effect*, in the sense that

motivational and behavioral changes are related to self-efficacy. However, this also relates to *causal effects* in the sense that individuals who increase their self-efficacy are also more likely to progress through stages, which is important for behavior change interventions. Of course, the causal effect can also be the other way around in terms of preparatory behavior and actual behavioral experiences increasing self-efficacy. Thus, this can be a *reciprocal effect*, which is generally the case and also reflected in other theoretical assumptions.

Other theories that include self-efficacy are, for example, the *theory of planned behavior* and the *protection motivation theory*, which are *linear, continuous theories*. They share the assumption that an increase in variable A (e.g., motivation or self-efficacy) makes an increase in variable B (e.g., behavior) more likely. Many continuous theories include self-efficacy or related constructs (see Table 1).

Those theories that incorporate self-efficacy assume that the higher self-efficacy expectations are, the greater the likelihood of protection motivation (PMT), the higher the intention (TPB, HAPA), the more planning (HAPA) and the higher the likelihood, that people will actually change their behavior. This is also true for the *compensatory carry over model* (CCAM) which includes the assumption that self-efficacy and planning interact when intentions are translated into action. In addition, the CCAM conceptualizes

multiple behavior change and assumes that resources like self-efficacy and planning can be transferred or carried over from one behavior to another (Lippke 2014).

The *health action process approach* (HAPA, Schwarzer 1992) models explicitly different phase-specific self-efficacy expectations (in accordance with the stage or phase concept described above). The HAPA proposes that (a) pre-intentional motivation processes lead to a behavioral intention and that (b) post-intentional volition processes lead to actual behavior. In the motivation phase, one needs to believe in one's capability to perform a desired action and to initiate it even if it is not easy to do so. In the subsequent volition phase, this intention needs to be planned so that it is transformed into detailed instructions on how to perform the goal behavior, and is actually translated into behavior, i.e., initiated and maintained. Self-efficacy influences all these processes: planning, taking initiative, maintaining behavior change, and managing relapses (see Luszczynska and Schwarzer 2005). In other words, the HAPA assumes that self-efficacy is phase-specific, an assumption that stems from the *relapse prevention model* (Marlatt et al. 1995).

Perceived self-efficacy is required throughout the entire process of preparing and actually performing behavior change. The nature of self-efficacy differs qualitatively from phase to phase. This is because different challenges emerge as people progress from one phase to the next. Goal setting, planning, initiative, action, and maintenance all pose challenges that are not of the same nature. Therefore, the HAPA distinguishes between *pre-action self-efficacy*, *coping self-efficacy*, and *recovery self-efficacy*. Sometimes the preferred terms are *task self-efficacy* instead of pre-action self-efficacy and *maintenance self-efficacy* instead of coping and recovery self-efficacy.

Related Constructs

In contrast to concepts such as self-control and behavioral control, self-confidence, or self-esteem, which capture rather general characteristic of a person, self-efficacy refers to a person's

Self-Efficacy, Table 1 Self-efficacy (perceived behavioral control) in different theories

	Label in the theory
Theory of planned behavior (TPB, Ajzen 1985)	Perceived behavioral control
Social-cognitive theory (SCT, Bandura 1977)	Self-efficacy
Protection motivation theory (PMT, Rogers 1975)	Self-efficacy
Transtheoretical model (TTM, Prochaska and DiClemente 1983)	Self-efficacy
Health action process approach (HAPA, Schwarzer 1992)	Self-efficacy
Compensatory carry over model (CCAM; Lippke 2014)	Self-efficacy

confidence to be able to perform one particular behavior in the face of barriers. Self-efficacy is more precisely related to one's competence and to future behavior especially in challenging circumstances or when the behavior is not easy or not automatically performed. Self-efficacy expectations are governed by the ability a person actually has, abilities needed to perform a behavior, and their confidence in being able to use these abilities in the required manner. Self-efficacy is not a stable characteristic, but rather is the result of the interplay of cognitive, social, motivational, and behavioral skills (De Vries et al. 2017).

Self-efficacy can be understood as a distinct variable with interrelations to other differentiated constructs such as *self-concept*, *self-esteem*, *locus of control*, and *self-perception of ability*. Self-efficacy has a more competence-based, prospective, and action-related characteristic, which enables it to explain much more variance in many outcomes and to offer more options for intervention targets.

Generalized self-efficacy expectancies are sometimes also conceptualized as *dispositional optimism*, which is a sense of trust in one's ability to reach goals with self-regulatory efforts (Carver and Scheier 1999). These efforts are the key variables for determining whether a goal is attained and the desired outcome is achieved. While self-efficacy demands that attainment of the desired outcome is explicitly attributed to the individual's competence by himself/herself, this is not required for dispositional optimism as this is a broader, more general construct, even more so than generalized self-efficacy (Schwarzer 1992).

The *hope* construct developed by Snyder et al. (1991) consists of agency and pathways. While agency resembles the self-efficacy construct, the pathway aspect introduces outcome expectancies. The two obviously work together, but are distinct concepts, as suggested by Bandura's self-efficacy theory.

Rotter (1966) proposed, with his social learning theory, that individuals have either a *locus of control* that is *internal (I)* or *external (E)*. This is oftentimes abbreviated as the I/E dimension, and both can vary in the extent of their generality or situation specificity. Internal locus of control

refers to the causal agency of the individual (based on one's competences or actions). External locus of control refers to the causal agency of the person's circumstances (other forces) or chance. They are typically measured at a rather general level, which might account for why locus of control is not highly correlated with outcomes such as behavior or well-being. Self-efficacy appears to be more valuable in this regard, as it is more specific, action-oriented, and prospective. However, self-efficacy is reflected in an internal locus of control.

Self-Efficacy's Interrelation and Overlap with Other Constructs and Its Unique Qualities

Many studies have tested the effect of self-efficacy on motivation and behavior. For instance, McDermott et al. (2015) aggregated up to 22 studies on healthy dietary patterns. They found that self-efficacy was correlated significantly with both motivation ($r_+ = .46$) and behavior ($r_+ = .32$).

Meta-analyses such as the one conducted by Choi et al. (2012), with up to 14 individual studies, revealed that career decision self-efficacy correlated significantly with self-esteem ($r_+ = .55$), vocational identity ($r_+ = .55$), peer support ($r_+ = .41$), vocational outcome expectation ($r_+ = .49$), and career indecision variables ($r_+ = -.57$) as well as age ($r_+ = .14$). Career decision self-efficacy was not significantly correlated with gender ($r_+ = .00$), race ($r_+ = -.02$), or career barriers ($r_+ = -.10$; Choi et al., 2012). In the meta-analysis by Blashill and Safrena (2015), body dissatisfaction was negatively associated with self-efficacy regarding condom use ($r_+ = -.25$).

It has also been found in meta-analyses that self-efficacy is the most reliable predictor of physical activity after self-regulation and goal/intention, and it is clearly more strongly interrelated with intention and behavior than the other social-cognitive variables (e.g., Young et al. 2014). A unique effect of self-efficacy for job satisfaction was found in the meta-analysis conducted by

Judge and Bono (2001), which aggregated up to 80 individual studies. Judge and Bono (2001) also determined that generalized self-efficacy correlated more highly ($r_+ = .45$) with job satisfaction than did self-esteem ($r_+ = .26$), internal locus of control ($r_+ = .32$), and emotional stability ($r_+ = .24$). However, the correlation between job performance and generalized self-efficacy ($r_+ = .23$) was about equivalent as that with self-esteem ($r_+ = .26$), internal locus of control ($r_+ = .22$), and emotional stability ($r_+ = .19$, Judge and Bono 2001).

Measurement

Bandura wrote extensively on how to measure self-efficacy (e.g., Bandura 2006) as did other authors. To briefly summarize, one should decide whether it is more appropriate to measure general self-efficacy or more specific self-efficacy for their particular research purpose. *General self-efficacy* captures broad and stable aspects of personal competence to manage a wide range of challenging situations. While Bandura (1977) argued for assessing self-efficacy in a situation-specific manner, general self-efficacy can be used more like a trait or an abstract factor relevant to a variety of behavioral domains. *Behavior-specific self-efficacy* would then be useful for differentiating more diverse behaviors such as single health behaviors (e.g., physical exercise, hand hygiene), acquiring new skills, career decision-making, job performance, and dealing with social problems.

In practice, single-item measures or very short scales (consisting of, e.g., 4 items) are quite often used. Schwarzer and Luszczynska (2008) state that this is adequate if the aim is to predict a specific behavior. It is only necessary to employ precise theory-based item wording and include demanding challenges. As a rule of thumb, they suggest the structure, “I am certain that I can do xx, even though yy (barrier)” (Luszczynska and Schwarzer 2005). If the action in question is rather unspecific, more items are needed thereby broadening the scope of relevance of the measure. Alternatively, specific subscales can be developed which should then be measured with

Self-Efficacy, Table 2 Selected measurements for behavior-specific self-efficacy expectancies – adapted from Schwarzer and Luszczynska (2008)

Behavioral domain	Authors of the scale/reference
<i>Nutrition</i> self-efficacy eating low-fat diets	Chang et al. (2003)
<i>Physical exercise</i> self-efficacy	Schwarzer and Renner (2000)
<i>Alcohol abstinence</i> self-efficacy (AASE)	DiClemente et al. (1994)
Drinking refusal self-efficacy questionnaire-revised (DRSEQ-R)	Oei, Hasking, & Young (2005)
<i>Smoking</i> relapse situation efficacy questionnaire (RSEQ)	Gwaltney et al. (2001)
<i>Medication adherence</i> self-efficacy scale	Ogedegbe et al. (2003)
<i>Condom use</i> self-efficacy scale	Brafford and Beck (1991)
<i>Study skills</i> self-efficacy scale (SSSES)	Silver et al. (2001)

corresponding items. In Table 2, selected well-developed and researched scales are outlined.

Situation-specific self-efficacy can take the form of perceived motivational and volitional self-efficacy. Items assessing these forms of self-efficacy can assume the following form: *Motivational self-efficacy* refers to the goal-setting phase and can be measured with the stem, “I am certain . . .” followed by the two items “. . . that I can be physically active on a regular basis, even if I have to mobilize myself,” and “. . . that I can be physically active on a regular basis, even if it is difficult” (correlation of the two items $r = .79$; Lippke et al. 2010).

Volitional self-efficacy refers to the goal-pursuit phase. It can be subdivided into *maintenance self-efficacy* and *recovery self-efficacy*. *Maintenance self-efficacy* has been measured with the stem, “I am capable of continuous physical exercise on a regular basis . . .” followed by the two items “. . . even if it takes some time until it becomes routine,” and “. . . even if I need several tries until I am successful” (correlation of the two items $r = .82$; Lippke et al. 2010). Items on *recovery self-efficacy* can be worded, “I am confident that I can resume a physically active lifestyle, even if I have relapsed several times,” “I am confident that I am able to resume my regular exercises after failures to pull myself together,”

or “I am confident that I can resume my physical activity, even when feeling weak after an illness.” In three rehabilitation studies, the scales consisting of three to six items exhibited high reliability and validity in orthopedic and cardiac rehabilitation samples (Schwarzer and Luszczynska 2008).

Conclusion

Self-efficacy is competence-based, prospective, and action-related. Self-efficacy is a key construct in many different theories and models, as well as an important target in interventions. It can be conceptualized as a more general or specific factor and is distinct from, e.g., self-concept, locus of control, self-perception of ability, intention/motivation, and planning. At the same time, it is highly correlated with these variables, which indicates the importance of self-efficacy for different psychological processes within behavior change.

Cross-References

- ▶ Albert B.
- ▶ Behavior Modification
- ▶ Continuum Models
- ▶ Correlation Coefficient
- ▶ Enactive Mastery Experience
- ▶ Internal-External Locus of Control Scale
- ▶ Locus of Control
- ▶ Meta-Analysis
- ▶ Optimism
- ▶ Reliability
- ▶ Self-Directedness
- ▶ Self-Efficacy Expectation
- ▶ Self-Efficacy Theory
- ▶ Self-Esteem
- ▶ Theory of Planned Behavior
- ▶ Validity

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Self-Efficacy Beliefs

- ▶ [Self-Efficacy](#)
- ▶ [Self-Efficacy Expectation](#)

Self-Efficacy Expectation

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Synonyms

[Perceived behavior control](#); [Self-efficacy](#); [Self-efficacy beliefs](#)

Definition

Belief in one's own ability to perform an intended behavior in spite of barriers (Bandura 1977); for instance, "I am capable of adhering to my exercise schedule in spite of the temptation to watch TV" (from Schwarzer et al. 2011, p. 163).

Introduction

Typically, the terms self-efficacy and self-efficacy expectations are used interchangeably. However, the term "expectations" makes the prospective nature of this social-cognitive construct explicit: Self-efficacy expectations are one's beliefs about how well or poorly one *will* cope with a situation through one's own competencies in the face of barriers. Sources of self-efficacy are retrospective experiences which may consciously or unconsciously affect an individual's sense of their own competence. Self-efficacy expectation is a key construct within several theories and has been found to be the strongest predictor of intention and behavior in many studies.

Definition of Self-efficacy Expectations

Self-efficacy expectations are subjective assessments of one's own abilities and competencies, which enable individuals to manage their skills effectively to cope with challenges. Because self-efficacy expectations are subjective, they are not the same as efficacy or the actual skills and abilities one possesses.

Of course, skills and abilities are needed for effective functioning. However, people can expect to be self-efficacious when they possess few skills or they can expect to be not self-efficacious even with many abilities. Thus, to predict successful performance, self-efficacy expectations and actual abilities to cope with obstacles or changing circumstances should both be taken into consideration.

The Opposite of Self-Efficacy

Feeling not self-efficacious or expecting to have low self-efficacy manifests as *doubt*. It has been observed that people who harbor doubt are more likely to exhibit anxiety, confusion, negative thinking, and negative physiological arousal and bodily tension (see Reeve 2015, p. 272). In the face of challenges, these negative emotions can interfere with effective cognitive functioning and decision making. These negative effects may themselves cause further negative emotions like anxiety, or feelings of distress, and this cycle can cause individual functioning to *spiral down to failure*. This failure experience is the opposite of *mastery experience*, the main source of self-efficacy expectations. Taken together, the negative emotion of doubt and the positive experience of self-efficacy determine how an individual manages the motivational balance between intending a new behavior and anxiety, doubt and behavioral avoidance. Overcoming anxiety and doubt may thus be necessary for an individual to expose her/himself to potentially challenging situations.

Self-Efficacy Expectancies in the Process of Behavior Change

When attempting to change behavior, self-efficacy expectancies are instrumental not only in the initial process of forming intentions to change behavior, but also when planning, initiating, and maintaining

behavior change, as well as recovering from setbacks (e.g., Lippke and Plotnikoff 2014). Throughout the process of behavior change, perceived self-efficacy facilitates cognitive and behavioral processes that are inherent to goal setting and goal pursuit. Although self-efficacy expectancies are considered to be important for all stages of health behavior change, for example, their role is perhaps best conceptualized in a stage-sensitive manner (for more information, see the entry for self-efficacy).

A number of studies suggest that self-efficacy is one of the most important determinants of behavior and behavior change (e.g., Lippke and Plotnikoff 2014). In addition, interventions that target self-efficacy have been effective in changing behavior. A meta-analysis and systematic review concluded that self-efficacy is beneficial for coping and avoiding the abuse of tobacco, alcohol, and illicit drugs among adult and adolescent survivors of acute, escalating, and chronic collective trauma (Luszczynska et al. 2009). Hyde et al. (2008) examined the ability of interventions targeting self-efficacy to prevent these addictive behaviors more generally. Among the 10 studies the authors identified to include in their review, the majority demonstrated that interventions had positive effects on self-efficacy, but only two out of five eligible studies demonstrated significant reduction of addiction behaviors. The authors noted that *mediation analyses* are necessary to test whether behavior change can be attributed to self-efficacy change. Such analyses were conducted by Williams and French (2011), who found in a review that intervention techniques that were associated with a change in self-efficacy were more likely to be associated with a change in behavior ($r_+ = .69$). In general, it is important to understand how interventions affect behavior change, with self-efficacy as a possible mediator among other variables. This is because only with the knowledge of how the intervention actually facilitates behavior change, one is not only a manipulation check (in terms of that such an intervention successfully changed, e.g., self-efficacy) and whether this altered variables also translates into the ultimate effect (like behavior change). In addition, this indicates whether specific interventions can better address certain variables

than other, which is important for choosing the best fitting intervention or putting together selected ones. Such additional analyses of *psychological mechanisms* were performed in an experimental study by Fleig et al. (2013) with 1166 individuals undergoing cardiac and orthopedic rehabilitation. The individuals received either (1) a self-management exercise intervention with telephone-delivered intervention boosters after 6 weeks, and after 6 months, targeting self-efficacy among other variables, or (2) a measurements-only standard rehabilitation. Self-efficacy, action planning, and satisfaction with previous exercise outcomes were assessed at baseline and 12 months after discharge. Habit strength and exercise were measured at baseline and 18 months after rehabilitation. The intervention effect produced effects not only on self-efficacy but also on planning and satisfaction. All three variables partially mediated the effects of the on behavioral changes and improvements of habit strength. In other words, if the intervention increased the participants' self-efficacy, planning, and satisfaction, the intervention was also more likely to improve their exercise behavior and lead to the adoption of a healthy lifestyle. In general, the intervention effectively changed all these mediating variables, including self-efficacy, and thereby changed behavior.

Self-Efficacy and Clinical Outcomes

In a systematic review of the effects of self-efficacy on the recovery of stroke patients, self-efficacy was positively associated with a variety of positive outcomes, such as physical health, mobility and balance, reduced motor impairment, lessened symptoms of distress, anxiety and depression, walking capacity, stair climbing, and use of positive coping strategies (Korpershoek et al. 2011). Many of these findings were corroborated by independent meta-analyses and systematic reviews (Luszczynska et al. 2009; Crellin et al. 2014).

In general Korpershoek et al. (2011) conclude that the evidence of the effectiveness of self-efficacy interventions with stroke patients points out the importance of developing and tailoring such interventions for this target group. This conclusion may be generalized to other populations

such as adult and adolescent survivors of trauma (Luszczynska et al. 2009), individuals at risk for addictive behavior (Crellin et al. 2014; Luszczynska et al. 2009), and many other domains (Reeve 2015).

Conclusion

Self-efficacy expectations are psychological resources that enable individuals to manage challenges, to set goals, and to attain those goals. Self-efficacy expectations are thus imperative for changing behavior and maintaining behavior change, facilitating positive performances, psychological development, and other imperative outcomes such as mental and physical health. Self-efficacy expectations are an important target for interventions. Research should continue to investigate not only whether interventions are successful in changing self-efficacy, behavior, and other outcomes but also the psychological mechanisms by which self-efficacy may produce positive benefits for individuals.

Cross-References

- ▶ [Albert B.](#)
- ▶ [Enactive Mastery Experience](#)
- ▶ [Goals](#)
- ▶ [Meta-Analysis](#)
- ▶ [Self-Efficacy](#)
- ▶ [Self-Efficacy Theory](#)

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Self-Efficacy Expectations

► Self-Efficacy

Self-Efficacy Theory

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Synonyms

[Bandura's social cognitive theory](#); [Social learning theory](#)

Definition

Self-efficacy theory explains how self-efficacy develops and is altered, as well as how self-efficacy impacts behavioral change, performance accomplishments, and personal well-being.

Introduction

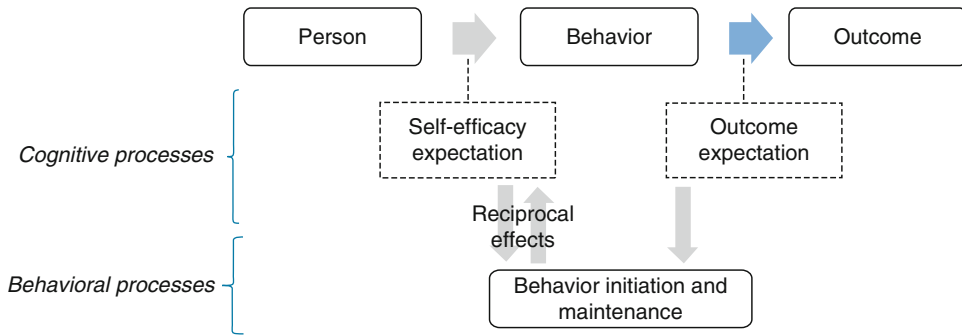
In 1977 Albert Bandura introduced his social-cognitive theory and self-efficacy theory, in which he proposed that self-efficacy and outcome expectancies are key to behavior initiation and maintenance (see Fig. 1). While self-efficacy was deemed to be especially central for goal setting, enactment, and attainment, self-efficacy was also a reliable target in treatments. Accordingly, his self-efficacy theory, in greater detail, outlined which sources impact self-efficacy expectations (Fig. 2).

Historical Development

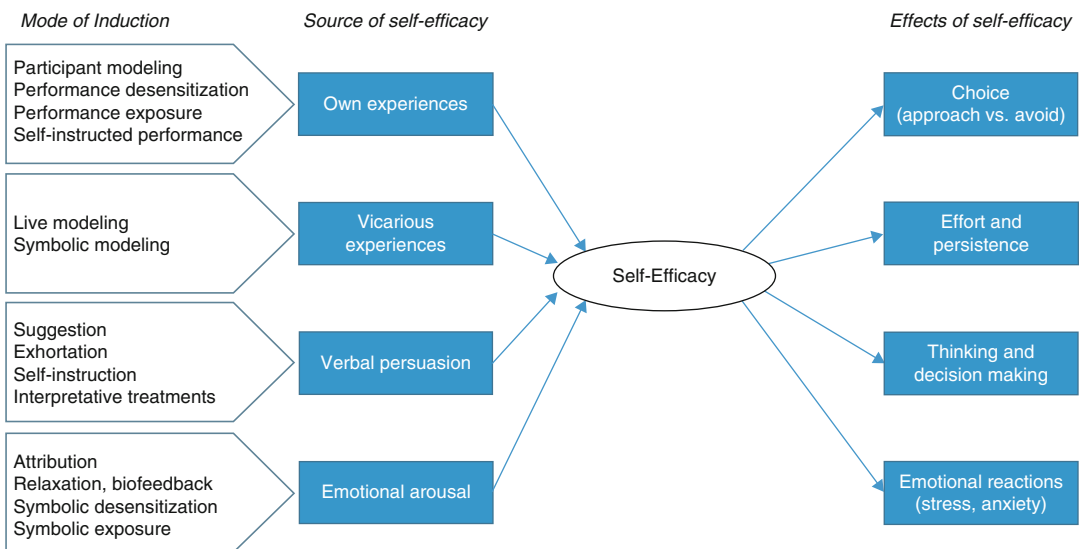
Albert Bandura incorporated the concept of self-efficacy into his *social learning theory*, which he authored in the 1960s. While Bandura drew on concepts like perceived control (Skinner 1996), he extended these theoretical assumptions through an agency and mastery approach (Bandura 1977). In their 1963 book, Bandura and Walters did not mention self-efficacy explicitly. However, they laid the basis for a longstanding tradition of understanding and supporting imitation, social behavior, and self-control. In the 1970s Bandura published explicitly on his *self-efficacy theory* and his *social-cognitive theory*. While these two theories quite often seem to be used interchangeably, there is a clear distinction between them: Bandura's social-cognitive theory integrates self-efficacy theory in the sense that self-efficacy is a core concept in Bandura's social-cognitive theory. At the same time, the social-cognitive theory goes well beyond self-efficacy. In his fundamental paper published in 1977, Bandura described psychological processes that create and strengthen self-efficacy expectations.

Function of Self-Efficacy

Self-efficacy expectation is the belief by an individual that they are able to perform a specific behavior. Whether or not this behavior is expected to generate specific outcomes is conceptualized as *response-outcome expectations*. In the case of strong outcome expectations, i.e., a person is convinced that a behavior leads to a desired outcome, self-efficacy expectations are important because they include the belief that one can



Self-Efficacy Theory, Fig. 1 Differences between self-efficacy expectations and outcome expectations and their joint impact on behavior (Adapted from Bandura 1977, p. 193)



Self-Efficacy Theory, Fig. 2 Self-efficacy, its sources, and modes of induction (From: Bandura 1977, p. 195, and Reeve 2014, p. 277)

successfully initiate and maintain this behavior to produce the outcome ultimately. Bandura modeled the difference between self-efficacy expectations and outcome expectations as outlined in Fig. 1.

Mechanisms of Self-Efficacy and Behavior as well as Other Behavioral Determinants

In his early publications on self-efficacy theory, Bandura mainly focused on self-efficacy and outcome expectancies. In more recent publications, other determinants of behavior have been established such as goals, facilitators, and

impediments. Self-efficacy was, and still is, understood as a focal factor, because it affects behavior directly and is also mediated by the other determinants. Self-efficacy is the only determinant modeled as influencing all other variables, underscoring the central role of self-efficacy in the model.

In his self-efficacy theory, Bandura also hypothesized that self-efficacy influences choice of activities, goal setting, and initiation of behavior (see Fig. 1) as well as coping efforts after commencement of the behavior (maintenance): Self-efficacy controls how much effort one invests and how persistent one is in investing more effort to deal

with obstacles and adverse experiences. In addition, performance also feeds back to self-efficacy expectation; thus, they have a *reciprocal effect*.

Self-efficacy is linked with goals in that the higher the self-efficacy the more likely people are to set a goal. Self-efficacy also impacts outcome expectations. Individuals with higher self-efficacy are more likely to perceive outcomes as more favorable.

Individuals with low self-efficacy, rather, believe that their efforts do not bring any positive outcomes. Self-efficacy also improves the perception and management of obstacles and impediments. People with more self-efficacy try harder and show more persistence, even when unforeseen obstacles crop up.

Dimensions of Self-Efficacy

Self-efficacy varies on several dimensions which influence its impact: magnitude, generality, and strength (Bandura 1977). *Magnitude* relates to the difficulty of the task. Some tasks appear easier than other tasks, and people may vary accordingly in their level of self-efficacy. In other words, some people only feel capable of dealing with simpler tasks, while others need more challenges to become motivated to actually engage in the task.

Strength of expectations determines whether a person applies effort over a longer period of time or with more obstacles. A weak expectation can easily be extinguished by negative experiences. *Generality* refers to whether an experience is more general, or the extent to which self-efficacy can be understood more as a personality trait that extends well beyond the specific behavioral domain. In contrast, some experiences create limited mastery expectations towards the particular behavioral domain. In other words, self-efficacy can be very *situation-specific* in terms of how people feel capable of dealing with one specific barrier or behavior but not with another.

Some specific self-efficacy expectations can be *transferred* to other situations and behaviors but some cannot be generalized. Thus it is important to plan what to measure, which specific behavior or barrier to address in interventions, and whether the aim is to include transfer components in

treatments. In general, Bandura theorized sources of self-efficacy, which are not behavior- or barrier-specific.

Sources of Self-Efficacy

Bandura's self-efficacy theory described *four different influence procedures or sources of self-efficacy*: performance accomplishments, vicarious experience, verbal persuasion, and emotional arousal. They all can directly influence self-efficacy and thereby have a mediated effect on behavior. Thus, they represent good targets of interventions to create or alter self-efficacy expectations and thereby enable people to perform a behavior to attain a set goal.

Own experiences, personal behavior history (Reeve 2014), or performance accomplishments (see Fig. 2) are often also called *mastery experiences*. Own experiences have been found to have the highest impact on self-efficacy beliefs and thereby on future behavior.

Vicarious experience is the second source and includes all experiences observed by the individual him/herself. Model learning builds on vicarious experiences by observing others and drawing conclusions for one's own behavior and its predictors. The more similar the model (the observed other person) is to the individual the more likely it is that the observations have an impact on the individual.

The third and weaker factor, compared to the first two sources, is *verbal persuasion*. Verbal feedback and instruction can come from other people, texts, or self-instruction.

The last and least strong source is physiological state or *emotional arousal*. Experiences of emotional or physiological arousal can impact self-efficacy expectations if they are attributed to one's ability to perform a behavior by means of suggesting (in)competence and (un)controllability.

Self-Efficacy as Target of Interventions

In Fig. 2, self-efficacy, its sources, and modes of induction of these sources are visualized. In addition, effects of self-efficacy are also outlined.

For the concrete creation of interventions, the self-efficacy theory proposes the following suggestions.

Own experiences can be addressed by tasks and exercises, real life examples, and memories of past behavior. Tasks should be of moderate difficulty for the individual and should come with the option to also learn how to deal with failures. Getting training in terms of solving tasks that have personalized difficulty, overcoming obstacles, and managing failure should be provided in an informative rather than demoralizing way. The task should generally provide the option for self-improvement, which requires some challenges depending on the previous skills and the efficacy expectation of the individual.

Targeting *vicarious experiences* by *social modeling* consists of presenting competent models who demonstrate knowledge, skills, and strategies for managing task demands. They therefore can demonstrate how to pursue a goal in the face of challenges, as well as promote ambition and interest in activities. Coming from social learning and modeling, it is obvious that people similar to oneself have a higher likelihood of convincing the observers that he/she can transfer the observed content to him/herself and to his/her own abilities.

Verbal or social persuasion means that people are encouraged to trust in themselves and, thus, to invest more energy towards the goal. The chances of success are thereby increased. It is important for the persuader to be credible in terms of being knowledgeable and practicing what he/she advises. In addition to transmitting confidence to others, social persuasion should also arrange for situations that increase the chance to experience success (relating to tasks, see above).

Since humans partially rely on their *physical and emotional states* to judge their efficacy, this too should be taken into account. Individuals are often aware of their somatic states such as tension, nervousness, fatigue, and pains. If these states are understood as signs of personal weaknesses related to the challenge, this can be very maladaptive in terms of diminishing self-efficacy expectation. Also, emotions influence how individuals rate their efficacy: Positive mood enhances self-efficacy expectations whereas a depressed mood diminishes them. People often misinterpret their physical states in terms of too low or declining physical capacity. However, they are oftentimes

related to other causes rather than the task or challenge itself. Interventions can address the physical states and emotional arousal directly by building physical strength and resilience, or address their misrepresentation by working on cognitive representations and maladaptive interpretations.

Cognitive Processing in Nurturing Self-Efficacy

According to self-efficacy theory, self-efficacy expectations control an individual's functioning by impacting their cognitive and emotional, motivational, and decisional processes. *Cognitive and emotional* influences refer to how people think, i.e., whether productively and optimistically or pessimistically, and how they feel. Therefore, they can reason in a self- or self-debilitating fashion. *Motivational* influences are how people are motivated within themselves and whether they persevere in the face of obstacles. Self-efficacy can also affect the quality of an individual's emotional well-being and their vulnerability to stress and depression. *Decisional* processes relate to the individual's life choices, which also set the course for future life trajectories.

All these influences, conveyed actively, vicariously, persuasively, or somatically, are not only informative in terms of a central route of processing but also work via a peripheral processing route as well. These influences also depend on how they are cognitively processed. Bandura (2009) advises distinguishing "between information conveyed by events and information as selected, interpreted, and integrated into self-efficacy judgments" (p. 185). Specifically, he proposes two separate functions of cognitive processing when self-efficacy information is addressed (Bandura 1997): On the one hand, individuals attend to various pieces of information and use this information to indicate self-efficacy, which relates to the four sources of self-efficacy. Bandura (2009) summarized them in a table (see Table 1). On the other hand, individuals "weight and integrate efficacy information from the diverse sources in forming their efficacy beliefs" (p. 186). This can occur in the form of additive, multiplicative, configural, or heuristic aggregation. This judgmental process is subjective and can vary from person to

Self-Efficacy Theory, Table 1 The distinctive sets of factors within each of four modes of efficacy influence that can affect the construction of self-efficacy beliefs

Modes of efficacy influence	Factors affecting the construction of self-efficacy
<i>Enactive efficacy information</i>	Interpretive biases
	Perceived task difficulty and diagnosticity
	Effort expenditure
	Amount of external aid received
	Situational circumstances of performance
	Transient patterns of successes and failures
	Temporal patterns of successes and failures
	Selective bias in self-monitoring of performance
	Selective bias in memory for performance attainments
<i>Vicarious efficacy information</i>	Model attribute similarity
	Model performance similarity
	Model historical similarity
	Multiplicity and diversity of modeling
	Mastery or coping modeling
	Exemplification of strategies
	Portrayal of task demands
<i>Persuasive efficacy information</i>	Credibility
	Expertness
	Consensus
	Degree of appraisal disparity
	Familiarity with task demands
<i>Somatic and affective information</i>	Degree of attentional focus on somatic states
	Interpretive biases regarding somatic states
	Perceived source of affective arousal
	Level of arousal
	Situational circumstances of arousal

Adapted from Bandura (2009; Table 10.1)

person and also over time, depending on experiences and emotional states.

Self-Efficacy in the Face of Obstacles

Obstacles and impediments are not only important when designing interventions but are also imperative to include in the measurement of

self-efficacy. Bandura, in the year 2004, in his model of health habits, explicitly incorporated obstacles – in addition to perceived facilitators – as one determinant of health habits. Such impediments can be personal, situational, environmental, or social.

Self-efficacy assessment should include such impediments even if they are controlled for by a separate factor: Bandura stated that, “Self-efficacy beliefs must be measured against gradations of challenges to successful performance. For example, in assessing personal efficacy to stick to an exercise routine, people judge their efficacy in getting to exercise regularly in the face of different obstacles: when they are under pressure from work, tired, feeling depressed, anxious, face foul weather, and have more interesting things to do” (Bandura 2004, p. 145). The key idea is that if no impediments have to be managed, then there is no variance between individuals, and everyone is efficacious as the behavior is easy to perform.

Some studies (e.g., Koring et al. 2012; Lippke et al. 2009) have investigated the interaction of self-efficacy with psychological processes intended to manage those obstacles, e.g., by means of planning when, where, and how to perform the goal behavior. Thereby it was found both in longitudinal-correlational designs as well as with experimental designs that high self-efficacy is needed for implementing the full effect of planning. If individuals with low self-efficacy try to plan spontaneously or when prompted by an intervention, they are more likely to fail to succeed than high self-efficacious individuals. In other words, a goal seems more likely to be translated into intended behavior by means of planning if self-efficacy expectations are high. Thus, this *synergistic effect* calls for complex interventions not only targeting planning but to also take into account self-efficacy beliefs.

Conclusion

With his self-efficacy theory, Albert Bandura proposed a conceptual framework to (a) study how different sources of self-efficacy such as experiences would work to change behavior and

(b) concretely guide interventions and their design. Many researchers and practitioners have used this framework. However, while self-efficacy theory influenced much of our understanding of behavior change and behavior resistance, as well as how to support effective behavior change, very few empirical studies have genuinely tested the entire theory.

Bandura proposed not only his self-efficacy theory but also his social-cognitive theory. His social-cognitive theory incorporates self-efficacy as a core concept and in his self-efficacy theory, includes it as a central element. Thus, self-efficacy should be seen in a larger framework, not only regarding how to change self-efficacy itself but also in terms of the central function of self-efficacy for other social-cognitive determinants of behavior initiation and behavior maintenance, its mediation and moderating effects.

Cross-References

- ▶ [Enactive Mastery Experience](#)
- ▶ [Outcome Expectation](#)
- ▶ [Self-Efficacy](#)
- ▶ [Self-Efficacy Expectation](#)

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Self-Enhancement

- ▶ [Positive Illusions](#)
- ▶ [Socially Desirable Responding on Self-Reports](#)

Self-Enhancement Bias

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Synonyms

[Illusory superiority](#); [Self-aggrandizement](#); [Self-serving bias](#)

Definition

Self-enhancement bias refers to people's general tendency to endorse self-views in various domains that are more favorable than is warranted by objective reality.

Introduction

Decades of findings have revealed that people strategically construct lofty, highly favorable self-views that often surpass (in favorability) the objective data that exist to support them. These *self-enhancement biases* – which manifest in myriad forms – reflect people's general tendency to endorse self-views in various dispositional, behavioral, moral, judgment, and performance domains that are more favorable than is warranted by reality (Alicke and Sedikides 2009). Importantly, such

biases are strategic in nature. Put differently, self-enhancement biases emerge due to individuals' motivated desire to maximize the positivity of one's self-concept, an end that is achieved by activating various motivated cognitive tactics that strategically influence the processing of self-relevant information (Alicke and Sedikides 2009; however, see the *Non-motivational Accounts* section for alternative, non-motivational contributors to self-enhancement effects). The success of such motivated self-enhancement is bolstered further by the operation of self-protection motives, which function to prevent one's self-views from falling below an acceptable standard (Alicke and Sedikides 2009). Together, self-enhancement and self-protection motives function to deploy various strategic, cognitive mechanisms that allow individuals to maintain the most favorable self-views that reality constraints will allow, even when objective data supporting the veracity of such self-aggrandizement is suspect. The sections that follow offer a brief overview of some well-documented self-enhancement biases, discuss cultural differences in self-enhancement tendencies, provide a brief survey of non-motivational contributors to self-enhancement effects, and examine various inter- and intrapersonal consequences of self-enhancement.

Examples of Self-Enhancement Biases

Following is a review of well-documented self-enhancement biases, broadly categorized into those driven by social comparison and effects driven by strategic information-processing biases. The findings presented are by no means exhaustive but rather represent a sample of phenomena that are considered quintessential examples of self-enhancement biases in the self and social judgment literature.

Comparative Bias

Some of the most clear-cut examples of self-enhancement bias emerge when comparing the self to others. Perhaps the most robust example of such comparative self-enhancement is the

better-than-average effect (BTAE; Alicke and Govorun 2005). Research on the BTAE has shown that people routinely evaluate themselves as better than their "average peer" on a host of dimensions including trait self-assessment, personal happiness, moral intentions, and even driving ability. Given that it is statistically impossible for everyone in a population to be better than the average of that population, the BTAE is construed as a form of bias. The effect even emerges in the face of known contrary evidence: prisoners, for example, rate themselves as kinder, more moral, and *equally law-abiding* compared to the average community citizen (Sedikides et al. 2014). When combined with research on *unrealistic optimism* – the finding that people believe they are less likely to fall victim to misfortune (e.g., unwanted pregnancy, criminal arrest, natural disasters, contracting cancer, being fired from one's job) and *more* likely to experience good fortune than base rates suggest (see Helweg-Larsen and Shepperd 2001, for a review) – it becomes quite clear that people are biased in a self-enhancing manner when comparing their personalities, morality, and future prospects to those of others.

Relatedly, people also see themselves as more capable of self-improvement over time than others and to improve at a faster rate. Wilson and Ross (2001) found that people hold higher opinions of their present than past abilities regardless of actual improvement, but they do not afford the same generous evaluations of change to others. For instance, when evaluating their acquaintances' conflict resolution skills compared to their own, participants reported their current skills to be significantly improved over their past abilities, but they perceived their acquaintances' and siblings' resolution skills to be unchanged over the same period. Hence, another form of self-enhancement is to see the self as improving over time, while others remain static, even if the past self must be denigrated to maintain this belief.

How is it that people maintain such rosy comparative evaluations of their personal characteristics, future prospects, and moral intentions? One prominent explanation is that people differentially consult base rates and performance averages

when evaluating themselves versus others (e.g., Epley and Dunning 2000). When it comes to making predictions about other people's moral behavior, future performances, or assessing their abilities, for example, research has shown that people are relatively accurate in making their evaluations – they (logically) consult relevant base rates and performance averages and closely align their behavioral assessments with these base rates. But when similar evaluations are made for the self, individuals *don't* consult, utilize, or anchor their self-judgments on such base rates. Instead, they anchor self-evaluations on their best performances in a given domain or even on their perceived potential within that domain. For instance, people tend to identify their most flattering photographs as being most representative of their actual attractiveness, whereas they more logically select an average-attractiveness photo as most typical of their peer's attractiveness. Similarly, student predictions of their future test grades tend to more closely align with their best grade to date in the same class rather than their average test performance over the duration of the semester. Forecasts for one's peers, however, are more logically based on the average of that person's past exam grades rather than on his or her best performance (Williams and Gilovich 2012). The upshot of this differential use of base-rate information is that self-evaluations, across a host of judgment domains, tend to emerge more favorably than peer evaluations and more favorably than objective data suggests they ought to be.

Information-Processing Biases

Self-enhancement biases also emerge in our processing and recall of self-relevant information. Research on the self-serving bias, for example, has shown that people readily accept responsibility for their successes but routinely deflect liability for failures for which they are equally culpable. People also skeptically scrutinize performance and health feedback that is inconsistent with their preferences but accept without hesitation feedback that is consistent with their desires. Hence, people are rarely balanced in their processing of equally valid information that

has differential implications for their self-enhancement concerns (for a review see Sedikides and Strube 1997).

Such strategic information processing has been shown to produce various memory biases that operate in the service of self-enhancement. Sedikides and Green (2000), for instance, found that people espouse better recall for feedback that flatters the self-concept over that which threatens it. Participants in their studies had more trouble recalling negative feedback about themselves than negative feedback about a stranger, especially when the feedback was important to the participant's self-concept. Likewise, they were also able to remember more positive feedback about themselves than they were about a stranger. Similar effects have been demonstrated for people's memory of their academic performance. When attempting to recall the letter grades they earned in high school classes, people more accurately recall their grades the higher they were. Subpar grades, however, are systematically misremembered as higher than they actually were, with this effect being stronger the lower the actual grade was (Bahrick et al. 1996).

Individuals also strategically remember information which supports their past choices better than that which challenges them. In an effect known as the *choice-supportive memory bias* (Mather et al. 2000), after choosing between two similar options, participants more readily recall and recognize the positive attributes of their chosen option than the positive attributes of the option they rejected. Additionally, participants often falsely recognize the positive attributes of their rejected option as pertaining to the option they selected. For example, after selecting a black car with low mileage and rejecting a red car with a working air conditioner (among other attributes), a participant might remember the black car as having both low mileage and a working air conditioner.

Taken together, the findings described above demonstrate that people strategically process and recall self-relevant information in a manner that allows them to construct and maintain positive, biased self-views in the service of satisfying their self-enhancement motivations.

Non-motivational Accounts

Although self-enhancement biases are most commonly construed as driven by one's motivated desire to enhance their self-image, several non-motivational cognitive mechanisms have also been identified as contributors to many of the aforementioned self-enhancement effects, particularly comparative bias (see Chambers and Windschitl 2004, for a review). For example, numerous studies have found that comparative biases (e.g., the better-than-average effect, unrealistic optimism) are also driven by people's tendency to focus egocentrically on their own positive qualities while giving little weight to the same qualities possessed by others. The by-product of this differential weighting is for self-judgments to be more favorable than peer judgments when the qualities under examination are personal strengths but for self-judgments to be *less* favorable than peer judgments when the qualities in question are self-deficits (effects referred to as *worse-than-average effects*; see Chambers and Windschitl 2004).

In a similar vein, research on *focalism* has shown that many self-versus-other comparative judgments are worded in a way that encourages respondents to unduly focus on the self (and thus the self's attributes, behaviors, past experiences, etc.) at the expense of the comparison target during comparative judgment. This cognitive tendency once again leads respondents to overweight self-relevant information and underweight (equally valid) peer information, and consequently, self-enhancement biases emerge when the comparative judgment in question pertains to positive qualities. As an example, research testing the focalism account has found that the BTAE is drastically reduced when the question "How kind are you relative to the average college student" is rephrased to read "How kind is the average college student relative to you?" Because the "average college student" is the focal target in the latter example, this attenuates respondents' tendency to focus unduly on their own kindness, which in turn mitigates the typical comparative bias that emerges following questions that highlight the self as the focal target.

Other non-motivational explanations for comparative bias include the tendency to evaluate *any* singular entity as "better than average" – not merely the self – due to it being easier to recruit specific, diagnostic behavioral and trait information about a single individual than about an aggregate, abstract entity (such as a nonspecified "average" peer); the tendency for individuals to be more confident in what they know about themselves than what they know about others, which produces more favorable self-judgments than peer judgments; and lastly, that insufficient anchoring-and-adjustment processes also contribute to comparative bias. When making trait evaluations or outcome predictions for other people, individuals initially anchor their judgments on their own (highly favorable) self-perceptions and then adjust from this anchor point to arrive at a final peer judgment. However, such adjustments typically wind up being insufficient, as people fail to fully consider the scope of other people's positive behavioral tendencies. This results in self-evaluations once again surpassing peer judgments in comparative favorability (for a review of research on these and other non-motivational accounts, see Chambers and Windschitl 2004).

Cross-Cultural Differences in Self-Enhancement

Whether self-enhancement biases are universal or culture-bound is one of the most hotly debated topics in the contemporary self-enhancement literature. On one side, some theorists argue that the need for positive self-regard is largely culture-bound, asserting that typical self-enhancement effects found in individualistic Westerners are not evidenced in collectivistic Easterners. For example, whereas the better-than-average effect has been well-documented in various individualistic cultures, the effect does not emerge on the same measures in collectivistic cultures such as Japan or Korea. Likewise, evidence for the self-serving bias has been widely documented in Western, individualistic cultures but has not been found in Japanese or Chinese samples. In fact, East Asians demonstrate a *self-critical* bias when

they describe themselves and their achievements and score significantly lower than North Americans on measures of self-esteem, a construct which is often used as a proxy for self-enhancement (for a review of these findings, see Heine et al. 1999). These findings appear to paint a clear picture regarding cultural differences in self-enhancement: individualistic Westerners are self-enhancers, while their collectivistic Eastern counterparts are humble self-effacers.

Proponents of pancultural self-enhancement, by contrast, have responded to the aforementioned claims by arguing that cross-cultural differences in self-enhancement have emerged because typically employed Western measures do not adequately cover the domains in which Easterners self-enhance. Sedikides et al. (2005) note that in order to assess self-enhancement cross-culturally, it is critical to measure the motive on attributes or traits that are deemed personally important in that particular culture. To this end, research has shown that Westerners are far more likely than Easterners to self-enhance on individualistic, “agentic” trait dimensions but that Easterners self-enhance strategically on collectivist, “communal” trait dimensions that are deemed more important in collectivistic cultures. For example, Taiwanese participants have been found to regard the self as better than average on collectivistic traits (e.g., respectful, tolerant, loyal) but not individualistic traits (e.g., independent, unique, leader) and, importantly, also rate collectivistic traits as more important to them. This pattern of findings suggests that although the motive to self-enhance is indeed universal, the way in which the motive manifests varies cross-culturally – self-enhancement biases will emerge in a given judgment domain *to the extent* that the domain is valued and deemed highly important in the culture where the self-evaluation is occurring (see Sedikides et al. 2005, for a review).

Inter- and Intrapersonal Consequences of Self-Enhancement

Given the ubiquity of documented self-enhancement effects, many scholars have explored

the consequences of self-enhancement for the self-enhancer – both interpersonally in terms of how self-enhancement is received by others and intrapersonally in terms of the physical and mental health consequences of endorsing aggrandized self-views.

Interpersonal Consequences of Self-Enhancement

In many cases, mild forms of self-enhancement are considered socially acceptable, have been linked to positive social outcomes, and evoke positive evaluations from one’s peers. Taylor et al. (2003a), for example, found self-enhancement to be positively associated with peer ratings of mental health and that self-enhancers are favorably perceived by their peers on a host of relationship-quality measures. Likewise, self-esteem – a correlate of self-enhancement – has been found to positively predict relationship satisfaction. One potential reason for these positive effects is that most forms of self-enhancement fall within the bounds of realistic possibility – people tend not to exaggerate their abilities when they know they are about to be tested objectively and publicly, which may curtail the extent to which such self-aggrandizement elicits dislike.

In fact, in those instances where self-enhancement *is* blatant and extreme or demonstrates a lack of regard for others, self-enhancement is indeed met with social disapproval. For example, individuals who engage in blatant self-superiority claims (e.g., “I am better than X” as opposed to simply “I am good”) are rejected socially – observers report a decreased interest in affiliating with such self-enhancers, perhaps because their blatant self-superiority claims may be received as having negative implications for the observer as well (e.g., Hoorens et al. 2012). Likewise, extreme self-enhancers such as narcissists, who denigrate others in order to maintain high levels of positive self-regard, also have difficulties maintaining meaningful interpersonal relationships. Taken together, these findings suggest that when self-enhancement is modest, it is deemed socially acceptable and may in fact predict positive interpersonal outcomes. Self-enhancers only seem to face social

sanctions when they belittle or alienate others while doing so.

Intrapersonal Consequences of Self-Enhancement

Many of the negative interpersonal consequences of self-enhancement seem to be outweighed by the abundance of physical and psychological benefits that accompany modest self-enhancement, such as the mitigation of physical stress. One study found that participants asked to perform a stressful task (e.g., count backward by 13 after being told the task was diagnostic of intelligence) demonstrated lower cardiovascular response during the task (e.g., lower heart rate and blood pressure) and showed quicker cardiovascular recovery post-task the higher their self-enhancement tendencies. Self-enhancers also evidenced lower baseline cortisol levels than their less self-enhancing counterparts (Taylor et al. 2003b).

Self-enhancement has also been shown to facilitate psychological coping with real-world stress experiences. High self-enhancers exposed to the September 11th terrorist attack on the World Trade Center, for instance, were more resilient to PTSD and were better adjusted in the months following the attacks than their less enhancing peers. Similar effects have been found among individuals coping with the death of a spouse and among civilian witnesses to warfare (for a discussion of these and other effects, see Bonanno et al. 2005). More generally, self-enhancement is robustly positively related to various measures of mental health and subjective well-being, having been linked to reduced feelings of anxiety, neuroticism, and hostility toward others (Taylor et al. 2003a). The self-enhancer, then, seems to be well-liked, well-adjusted, stress-resistant, and happy.

Conclusion

Self-enhancement biases represent some of the most robust effects in the social psychological literature. The bias influences how people evaluate themselves relative to others and how they process self-relevant feedback and the contents

of memory, among other effects. Although self-enhancement biases are largely considered motivational phenomena, various non-motivational mechanisms also contribute to these effects. Self-enhancement biases have been documented cross-culturally, but the nature of their manifestation varies by culture. And while blatant self-superiority claims may invite social rejection, modest self-enhancement has been shown to afford individuals a host of physical and mental health benefits.

Cross-References

- ▶ [Identity](#)
- ▶ [Self-Appraisals](#)

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Self-Enhancement Motives

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Definition

The motivation to maximize the positivity of one's self-views

Introduction

Self-enhancement is believed to be a fundamental motive to increase the positivity of one's self-views (for a review, see Alicke and Sedikides 2009). Self-enhancement can be conceptualized as a motive to bring one's self-views in line with a desired end state, one's ideal self, or one's aspirations with respect to self-views. Self-enhancement tendencies are instrumental psychological responses aimed at promoting positive self-views, and they are believed to be driven by a desire to attain or maintain self-esteem. That is, the self-enhancement motive is believed to guide people toward situations in which they believe they will excel or situations in which they can promote their positive qualities, which will help them increase their self-esteem.

Although some individuals may be more predisposed to self-enhancement than others, everyone has the propensity to self-enhance. People self-enhance in order to regulate their self-esteem or in response to situational pressures. Individuals will often employ self-enhancement strategies after recognizing that their perceived abilities do not coincide with their perceived aspirations. For example, people may rate themselves higher on a series of attributes (e.g., trustworthiness) as a way to feel closer to their aspirational level on those particular traits. To the extent that people are motivated to maintain their positive self-views, they may employ a variety of psychological strategies to do so.

Self-enhancement can occur in a variety of ways. A few examples include exaggerating one's virtues, claiming that one's successes are a reflection of ability whereas failures are due to external circumstances, or preferentially remembering positive rather than negative information about oneself. People are believed to engage in these self-enhancing responses in order to regulate or enhance their self-esteem or positive self-image. It is important to note that self-enhancement primarily occurs in personally important domains. That is, people self-enhance in areas that are important to them but are less likely to exaggerate their abilities in domains that

they perceive to be unimportant. The following section describes in more detail a variety of strategies individuals use to self-enhance.

Strategies for Self-Enhancement

Research on self-enhancement suggests that there are numerous strategies people use to self-enhance (Sedikides and Gregg 2008). Most commonly, people exaggerate their abilities and virtues or hold positive illusions about themselves. The “better-than-average” effect refers to the tendency for a majority of people to rate themselves as being above average on a wide variety of positive traits, attributes, and dimensions compared to their peers (e.g., Alicke 1985; Taylor and Brown 1988; Sedikides and Gregg 2008). If, for example, 90% of people rate themselves as above average in their driving abilities, this effect is logically impossible as a majority of people cannot be better than average, by definition. It is more likely that most people are in fact average, or score close to the statistical average, across most dimensions. Importantly, people often view themselves more favorably than objective standards would warrant. That is, people tend to rate themselves higher on specific positive traits or dimensions than do knowledgeable peers, close others, or neutral observers (e.g., Colvin et al. 1995). This effect is at least partially driven by the desire to maintain a favorable self-view (for alternative views, see Chambers and Windschitl 2004; Heine and Hamamura 2007).

Another common self-enhancement strategy is the self-serving attribution bias, which involves taking credit for successes (i.e., self-enhancement) but also denying responsibility for failures (which is a form of self-protection; see entry on the self-protection motive). People have a tendency to attribute successful task outcomes to their own ability, while discounting the external forces that may have played a role (e.g., luck). For example, a soccer player who scores three goals during a game may attribute this positive outcome to his natural ability, not considering that a home field advantage might have contributed to his performance. This self-serving bias is particularly interesting because neutral observers typically

make internal attributions for others’ behavior, regardless of the outcome’s valence (e.g., attributing both wins and losses to a player’s ability) and so make more even-handed judgments about others. The self-serving bias is also exacerbated when the positive outcome occurs in a personally important domain relative to a personally unimportant domain (Campbell and Sedikides 1999). People make more internal attributions for their successes (e.g., their own ability, determination) as a way to reinforce their positive self-images.

Cognitive-processing mechanisms also filter how information is encoded and remembered in self-serving ways. These self-enhancement tendencies involve, for example, selectively recalling positive (rather than negative) feedback about oneself (Sanitioso and Wlodarski 2004; Swann and Read 1981). People also remember past events in a variety of ways that accentuate the positivity of their self-views. Often people perceive positive past events to be subjectively closer in time than more negative events, even though the events occurred objectively around the same time in the past (Wilson and Ross 2001). Individuals who distance themselves from past mistakes or transgressions may even derogate a “past” self to enhance their current self-view. Thus, people engage in a variety of cognitive strategies that appear to be motivated by self-enhancement and serve to increase self-esteem.

Is Self-Enhancement Adaptive?

Considering that self-enhancement is believed to be a fundamental motive driven by the desire to view oneself more positively, researchers have been widely interested in whether self-enhancement is adaptive or maladaptive. Conventional psychological wisdom led researchers to initially expect that maintaining accurate self-views, both positive and negative, is most beneficial for psychological well-being. This view, however, was called into question by research on “positive illusions,” which suggests that self-enhancement might actually be beneficial to well-being. Researchers have examined the adaptiveness of self-enhancement strivings in two

primary domains: psychological well-being and interpersonal relationships.

Well-Being

Self-enhancement makes people feel better about themselves, which has been linked to a variety of positive psychological outcomes (Taylor and Brown 1988; Taylor et al. 2003; for an alternative viewpoint, see Colvin and Block 1994). For example, self-enhancement is positively related to subjective well-being, positive affect, and happiness. Perhaps not surprisingly, self-enhancement is also positively related to self-esteem. In addition to facilitating positive outcomes, self-enhancement seems to buffer against negative outcomes and may serve a stress-buffering function. Research suggests that self-enhancement is associated with decreased anxiety, depression, and neuroticism. Even after facing extreme adversities (e.g., traumatic loss), people who self-enhance to a greater extent were rated as better psychologically adjusted by mental health experts (Bonanno et al. 2002). Thus, having positive illusions about the self does seem to facilitate well-being and buffer against the effects of negative outcomes.

Interpersonal Relationships

Despite research suggesting that self-enhancement is psychologically adaptive for the individual, it may also cause maladaptive interpersonal outcomes (Colvin et al. 1995; Crocker and Park 2004; Paulhus 1998; Robins and Beer 2001). Researchers have found that self-enhancement is related to short-term benefits but comes with long-term interpersonal costs. People tend to initially be drawn to self-enhancers as they appear confident, charismatic, and charming. Over time, however, they come to view self-enhancers more negatively. Indeed, Paulhus (1998) found that strangers rated self-enhancing individuals as more likeable initially, but 7 weeks later rated those same individuals as less likeable than their less self-enhancing peers. Colvin et al. (1995) also found that people evaluated self-enhancers more negatively over time, labelling them as more deceitful, untrustworthy, and irritable than those who self-enhanced less. Individuals who self-enhanced also

seemed to lack an understanding of social conventions as they tended to brag more, interrupt, and act more irritable than those who did not self-enhance. Although people might be initially attracted to individuals who self-enhance, these positive first impressions are often short-lived.

Is self-enhancement adaptive? The answer to this question appears to be twofold: Self-enhancement may provide an individual with a buffer from psychological stress which increases their self-esteem and overall psychological well-being; however, people's self-enhancement tendencies may also negatively impact their interpersonal relationships as, over time, self-enhancers tend to be less well-liked than those who self-enhance less. Understanding the contextual boundaries of these effects may provide insight into the situations in which self-enhancement is adaptive and when it is maladaptive.

Additional Considerations

Although everyone may have a fundamental motive to self-enhance, different aspects of personality or culture may influence the strength of the self-enhancement motive. The moderators of self-enhancement that have received the most empirical attention are culture, self-esteem, and narcissism.

Culture

Across all cultures, people appear to want to maximize their successes and maintain positive self-images, as well as minimize failures and protect themselves from negative self-images. Cultures, however, broadly differ along a continuum from collectivist to individualistic. Collectivist cultures (e.g., East Asian), tend to self-enhance less, and less openly, than individualistic cultures (e.g., North America; Heine and Hamamura 2007). Collectivist cultures, however, tend to prioritize group memberships, social roles, and close relationships more than individualistic cultures and may self-enhance to a greater extent in these domains (Sedikides et al. 2003). In this way, culture may impact the strategies individuals use to self-enhance (for a review, see Sedikides et al.

2015). Because collectivist cultures value maintaining harmony and group membership, they tend to self-enhance more on personally important attributes including communal traits such as loyalty and trustworthiness. Individualistic cultures, however, emphasize independence and self-sufficiency and tend to self-enhance more on agentic traits (e.g., authority, confidence; Sedikides et al. 2003; but see also Heine 2005). Thus, individuals from different cultures may manifest their self-enhancement motives differently (Gaertner et al. 2012; also see entry on cultural differences in self-esteem).

Self-Esteem

A person's characteristic level of self-esteem is likely related to the strength of their self-enhancement motive and the self-enhancement strategies they employ. For example, individuals with high self-esteem tend to self-enhance more frequently than their low self-esteem counterparts (Campbell and Sedikides 1999). Indeed, those high in self-esteem are more concerned with enhancing their public image, whereas those low in self-esteem are more concerned with protecting the public image they already have. Those high in self-esteem are more likely to make downward social comparisons after a failure (i.e., choosing to compare to a worse-off other), whereas those low in self-esteem are more likely to make downward social comparisons after success (Wood et al. 1994). Thus, low self-esteem individuals do self-enhance, but only when there is little risk of being disappointed or success is relatively guaranteed. Although all individuals may strive to maintain relatively positive self-views, those with differing levels of self-esteem may do so in different contexts or for different reasons.

Narcissism

A variety of personality traits are linked to greater self-enhancement. For example, there are individual differences in self-deceptive enhancement (a form of overconfidence; Paulhus 1998). The most well-studied individual difference associated with self-enhancement, however, is

narcissism. Individuals high in narcissism tend to have grandiose, over-inflated self-views (Campbell and Foster 2007). Previous research, for example, suggests that narcissists rate themselves as more intelligent and more attractive than others (Gabriel et al. 1994), and narcissism is associated with more positive predictions of final course grades among students, but is unrelated to the actual grades attained (Farwell and Wohlwend-Lloyd 1998). Thus, narcissists are individuals who are strongly guided by the self-enhancement motive and engage in many self-enhancing strategies as a way to build their narcissistic esteem.

Conclusion

Self-enhancement is the motivation to increase the positivity of one's self-views. The self-enhancement motive may influence a wide variety of social, affective, and cognitive functions. It may cause a variety of cognitive biases. Most people rate themselves as being better than average on positive traits, they remember their successes better than their failures, make downward social comparisons, and take credit for successes while denying responsibility for failures. Self-enhancement may promote better psychological well-being, but it is also linked to negative interpersonal consequences.

Cross-References

- ▶ [Cultural Differences in Self-Esteem](#)
- ▶ [Self-Protective Motives](#)

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Self-Esteem

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Synonyms

[Self-acceptance](#); [Self-appraisal](#); [Self-evaluation](#); [Sense of self-worth](#)

Definition

Self-esteem is an overall assessment of the value of one's self or self-worth. It reflects a continuum, with people ranging from "low" to "high" self-esteem. Those with low self-esteem, in extreme cases, actively dislike themselves and feel worthless. Those with high self-esteem like themselves and believe strongly in their inherent worth as individuals.

Introduction

Self-esteem has been a popular topic in psychology for well over a hundred years. Psychologists have now published thousands of articles and books about self-esteem, and the general public seems equally enthralled by it. This intense interest is the result, in part, of early evidence suggesting that self-esteem influences important life outcomes, such as academic performance, social acceptance, and physical health. Although it is now clear that self-esteem is closely related to subjective well-being and psychological adjustment, whether it influences more objective outcomes remains unclear (Baumeister et al. 2003). Available evidence seems to be as consistent with the possibility that doing well in school, as one

example, increases self-esteem as it does with the possibility that higher self-esteem enhances school performance. Nevertheless, an active industry of self-help books focused on raising self-esteem continues to flourish in Western societies. The present entry begins with a short history of the concept of self-esteem in psychology. We then consider how self-esteem is conceptualized and assessed, review evidence of its relation to a number of significant life outcomes, review possible purposes of self-esteem, and finish by considering its development across the life span and the factors that may influence self-esteem. This review, in order to be concise, is necessarily selective.

History of Self-Esteem

Self-esteem was introduced to psychology as a major focus of study by William James (1890). James defined self-esteem as the feeling of self-worth that results from consistently meeting expectations for personally valued activities. James proposed that global self-esteem is "determined by the ratio of our actualities to our supposed potentialities" (p. 54) and that it depends "entirely on what we back ourselves to be and do" (p. 54). This conceptualization of self-esteem is notable because it suggests two ways that individuals can maintain high self-esteem: by doing well in personally valued activities or by abandoning aspirations to do well in them. Being a terrible cook, for example, should not threaten one's self-esteem if one does not aspire to be a good cook. James' ideas about self-esteem remain influential.

After James' initial theorizing, self-esteem featured prominently in a number of notable theories in psychology (e.g., Maslow's hierarchy of needs and Rogers' humanistic psychology), but interest in self-esteem really flourished in the 1970s. Evidence by that time implicated low self-esteem in a number of significant societal problems, such as drug abuse, unemployment, juvenile delinquency, and violence. Some psychotherapists, such as Nathaniel Branden (1969), championed the

self-esteem movement, which put emphasis on nurturing self-esteem and minimizing experiences that might damage self-esteem, especially among children. The California Task Force to Promote Self-esteem and Personal and Social Responsibility (1990) was established with the goal of increasing self-esteem among Californians, in order to alleviate pressing societal problems. This and other large-scale efforts to increase self-esteem, however, did not create the widespread improvements to societal problems that they promised. The idea that self-esteem is a social panacea – suggested by the self-esteem movement – now seems overly optimistic.

Complicating the view that high self-esteem is uniformly desirable, evidence also suggested that high, rather than low, self-esteem may contribute to some societal problems, such as aggression and criminal violence (Baumeister et al. 1996). A relatively comprehensive review of research findings, moreover, suggested that the links between self-esteem and positive life outcomes may primarily reflect subjective perceptions rather than objective outcomes (Baumeister et al. 2003). People with lower self-esteem, for example, report that they perform worse in school or at their jobs than people with higher self-esteem, but objective indicators such as GPA or employee evaluations suggest that they perform equally well. People with lower self-esteem may simply be more pessimistic and critical of their own performances and abilities. Moreover, self-esteem may be the result of objective performance. It may be, for example, that doing well in school increases self-esteem rather than the other way around.

Other evidence, however, suggests that self-esteem may truly be consequential. The results of a notably large study that followed participants over many years are consistent with the possibility that self-esteem affects several important life outcomes (albeit largely subjective ones) such as depression, job satisfaction, and relationship satisfaction (Orth et al. 2012). The extent to which self-esteem affects important life outcomes thus remains controversial. Later in this entry, we review evidence

concerning whether self-esteem affects a number of important life outcomes in greater detail.

Conceptualizing Self-Esteem

Self-esteem can be either global or domain specific. Global self-esteem is an overall evaluation of one's worth or value as a person. Domain-specific self-evaluations are appraisals of one's abilities or standing in more circumscribed domains, such as academics, social relations, or appearance (Shavelson et al. 1976). William James' (1890) original conceptualization of self-esteem suggests that global self-esteem results from averaging domain-specific self-evaluations, weighted by how personally important they are to the individual (Marsh 1986). Consistent with this view, domain-specific self-evaluations are positively associated with global self-esteem: Individuals who feel generally good about themselves also tend to appraise their specific abilities positively. It is not always the case, however, that people assess their individual attributes and then, depending on how they feel about those attributes, decide whether they feel positively or negatively about themselves in general. Sometimes a general sense of self-worth comes first. Global self-esteem can color how people view themselves in specific domains, such that individuals with generally high self-esteem appraise their abilities and attributes more positively than individuals with lower self-esteem (Brown et al. 2001).

Another important distinction is that between state and trait self-esteem. Trait self-esteem is dispositional and refers to a person's typical or average self-feeling which is largely consistent across time and situations. Self-esteem is, in fact, highly stable over long periods of time (Rosenberg 1986). State self-esteem, in contrast, fluctuates regularly and is situation specific. People feel higher self-esteem after success than after failure or after social acceptance than rejection. State self-esteem can be viewed like the weather, whereas trait self-esteem is akin to a region's climate. People have an average, typical level of self-esteem (like climate) as

well as short-term fluctuations in how they feel about themselves (like changing weather).

Self-Esteem and the Self-Concept

Self-esteem is typically distinguished from self-concept. Self-esteem refers to how one evaluates oneself (e.g., “I like myself”), whereas the self-concept represents self-knowledge or specific beliefs about oneself (e.g., “I am outgoing,” “I am intelligent,” “I am trustworthy”). This distinction, however, can be difficult to strictly maintain because self-beliefs frequently have an evaluative character (Marsh and Craven 2006). People may be heavily invested in their self-beliefs, being motivated to see themselves as capable and moral individuals. Similarly, the self-concept has clear implications for self-esteem: People who hold many positive self-beliefs tend to have higher self-esteem than those who hold primarily negative ones (e.g., Segal 1988).

There are also indirect links between self-esteem and self-concept (Showers and Zeigler-Hill 2006). The self-concept, though often experienced as unitary, is generally accepted as being multifaceted, composed of many distinct self-aspects defined by different situations, social roles, psychological states, and so on. One person’s conceptualization of himself as a father may be quite distinct from his conceptualization of himself as an employee. When the self-concept is accepted as multifaceted, then self-concept structure (i.e., how different facets of the self are mentally organized) becomes important and can affect how the self-concept relates to self-esteem. People differ from each other in a number of ways concerning self-concept structure, such as how complex is their self-concept, or the degree to which positive and negative self-aspects are integrated with each other as opposed to being compartmentalized (i.e., kept separate). These aspects of self-concept structure determine how readily different self-aspects come to mind for individuals and their likelihood of influencing mood and state self-esteem (Showers and Zeigler-Hill 2012).

Measuring Self-Esteem

Because self-esteem is generally considered to be a subjective evaluation, the most common way to assess it is through self-report. People should, in principle, be aware of how they feel about themselves and be able to report those feelings. Accordingly, they are typically administered a questionnaire for which they rate their opinions of, or feelings about, themselves. The most commonly used self-report measure of trait self-esteem for children is Coopersmith’s (1967) Self-Esteem Inventory and for adults is Rosenberg’s (1965) Self-Esteem Scale (RSES). The RSES has respondents indicate their agreement with statements such as, “On the whole, I am satisfied with myself,” “I take a positive attitude toward myself,” and “At times I think I am no good at all.”

State Self-Esteem

The RSES has also been adapted to measure state self-esteem by asking participants to respond based on how they feel “right now,” at the moment, rather than how they generally feel. However, measures designed to specifically assess state self-esteem have also been developed, notably Heatherton and Polivy’s (1991) State Self-esteem Scale and MacFarland and Ross’ (1982) state self-esteem assessment. In Heatherton and Polivy’s scale, respondents report their current self-evaluations in three specific domains: appearance, performance, and social acceptance. The items reflect cognitive evaluations in each domain, such as “I feel unattractive” (appearance), “I feel confident about my abilities” (performance), and “I feel that others respect and admire me” (social). MacFarland and Ross’ measure, in contrast, asks respondents to indicate the extent to which a variety of adjectives associated with self-esteem reflect how they presently feel, such as “pride,” “smart,” and “confidence” versus “shame,” “incompetent,” and “worthless.”

Implicit Self-Esteem

Although self-esteem is a subjective evaluation that is commonly measured by self-report, some researchers have raised concerns that people may

be unwilling or unable to accurately report all aspects of their self-esteem (Greenwald and Banaji 1995). Accordingly, a number of indirect measures of self-esteem have been developed (see Zeigler-Hill and Jordan 2010). Respondents are not told that their self-evaluations are being assessed when they complete these measures. The most commonly used indirect (or implicit) measures of self-esteem are the name-letter task and the self-esteem variant of the implicit association test.

The name-letter task is based on the finding that people with particular letters in their name – especially their initials – like those letters more than people without those name letters (e.g., Kayla likes “K” more than Laila likes “K”). This measure asks respondents to indicate how much they like each letter of the alphabet. The magnitude of their preference for their own name letters (i.e., how much more they like their name-letters than other respondents like those letters) is taken as an indirect measure of self-esteem.

The IAT is a response-mapping procedure that assesses how quickly people categorize stimuli presented by computer. It assesses the degree to which two concepts are cognitively associated for respondents. To assess self-esteem, respondents categorize stimuli along an evaluative dimension (e.g., “holiday” is good; “vomit” is bad) as well as a dimension reflecting the self (e.g., “me” reflects the self; “it” does not reflect the self). In critical phases of the task, respondents categorize stimuli along both dimensions (on alternate trials) using only a single pair of response keys. In one phase, respondents use one key to categorize both good and self-related stimuli (and the other is used for bad and non-self-related stimuli). In another phase, one key is used to categorize both bad and self-related stimuli (and the other is used for good and non-self-related stimuli). If participants feel positively about themselves (or associate the self with positivity), they should find the task easier, and therefore respond faster, when self and good share the same response key than when self and bad share the same response key. The magnitude of this facilitation effect serves as an indirect measure of self-esteem.

These measures may be taken as indirect measures of self-esteem. A number of researchers, however, have suggested that these measures may capture a distinct form of self-esteem referred to as implicit self-esteem. According to this view, traditional research on self-esteem has focused on *explicit* self-esteem – deliberative and fully conscious self-evaluations that can be assessed by self-report measures. Indirect measures, in contrast, may assess *implicit* self-esteem – less conscious, more intuitive self-evaluations that are not as readily accessible to self-report (Zeigler-Hill and Jordan 2010). Consistent with this possibility, self-report (direct) and indirect measures of self-esteem are typically uncorrelated, meaning that someone who reports having high self-esteem may respond in ways that suggest they have low self-esteem. Different combinations of implicit and explicit self-esteem predict important psychological outcomes. Individuals who are high in explicit (self-report) self-esteem but low in implicit self-esteem may be particularly defensive, for example. Nevertheless, indirect measures of self-esteem remain controversial, with some researchers questioning whether they measure self-esteem at all (Buhrmester et al. 2010).

Correlates of Self-Esteem

Recall that interest in self-esteem grew during the 1970s in response to evidence suggesting that low self-esteem was associated with a number of societal problems. The self-esteem movement gained popularity, culminating in large-scale efforts to increase self-esteem, such as the California Task Force. But these efforts produced largely discouraging results. In their wake, questions were raised about whether self-esteem affects important life outcomes or whether it is, at best, epiphenomenal – a symptom of individual circumstances, rather than their cause.

Self-Esteem and Psychological Health

The clearest, most consistent correlates of self-esteem are subjective well-being and psychological health. Most commonly, mental health

problems, such as major depressive disorder and bulimia, are associated with low self-esteem. But some disorders, such as narcissistic personality disorder, are associated with high self-esteem (i.e., grandiose self-views). Accordingly, problems with self-esteem are diagnostic criteria for several mental disorders in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5; American Psychiatric Association 2013; see Zeigler-Hill 2011). The relation between self-esteem and psychopathology remains somewhat unclear but is characterized primarily by two models. The *vulnerability model* posits that low self-esteem is a risk factor that makes people susceptible to psychopathology, either by itself or in combination with stressful life events. The *scar model*, in contrast, posits that the experience of psychopathology (such as a major depressive episode) causes persistent low self-esteem, even after the initial psychopathology subsides. Available evidence is consistent with both models, and, indeed, they are not incompatible with each other.

Self-esteem is also clearly related to subjective well-being (Baumeister et al. 2003). People with higher self-esteem are happier, more satisfied with their lives, have fewer negative moods, and more frequent positive moods. The reasons why self-esteem is associated with greater subjective well-being are not entirely clear. It may be that people with higher self-esteem use more effective coping strategies when dealing with problems and have a more generally optimistic outlook on life. But complicating this picture is the fact that the link between self-esteem and subjective well-being is variable across cultures. It is stronger in individualistic cultures like the United States and Canada than in collectivist cultures like China and Japan (Diener and Diener 1995). This pattern of cultural variation suggests that self-esteem is not universally associated with greater psychological well-being.

Self-Esteem and Success

One strong belief within the self-esteem movement is that self-esteem promotes success in school and on the job. Does empirical evidence support a causal influence of self-esteem in these

domains? High self-esteem students report better academic performance than those with lower self-esteem (Hansford and Hattie 1982). But part of the reason for this association is that high self-esteem relates to the subjective experience of school performance: Students with higher self-esteem perceive themselves to be performing better in school, but objective indicators (such as GPA) are not strongly related to self-esteem (Baumeister et al. 2003). In addition, the modest relation that exists between self-esteem and academic performance may be spurious. It may reflect the influence of factors such as intelligence, family background, and early academic achievement on both self-esteem and later academic achievement (e.g., Maruyama et al. 1981).

High self-esteem individuals also appear to perform better at work. But this apparent association again reflects, at least in part, the relation between self-esteem and the subjective experience of work. High self-esteem individuals perceive themselves as performing better, but the relation between self-esteem and objective indicators of performance is not strong. With respect to the modest relation of self-esteem and objective indicators of achievement, research suggests that performing well in one's job increases self-esteem more than self-esteem increases job performance (Pierce and Gardner 2004). Nevertheless, there are a few reasons to expect people with high self-esteem to sometimes outperform those with low self-esteem at work (Baumeister et al. 2003). High self-esteem individuals employ better coping strategies to deal with stressful problems. They are also more likely to persist at difficult tasks than their low self-esteem peers, especially when such persistence is likely to be effective.

Self-Esteem, Crime, Delinquency, and Aggression

As noted earlier, proponents of the self-esteem movement identified low self-esteem as a fundamental cause of many social problems, including crime, juvenile delinquency, aggression, and violence. The record of empirical evidence on these points, however, is inconsistent, with some studies supporting this view and others failing to support it. Perhaps the most rigorous test of the

relation between self-esteem and these kinds of outcomes comes from longitudinal studies that follow the same people over time, assessing self-esteem as well as problem behaviors at multiple time points.

Longitudinal research suggests that lower self-esteem is related to delinquent behaviors. Students with lower self-esteem report engaging in more delinquent behaviors, and these reports are corroborated by these students' teachers and parents (Donnellan et al. 2005). Pertinently, when the delinquent behavior of these same students was assessed 2 years later, students with lower self-esteem were still more likely to commit delinquent acts than those with higher self-esteem. The same pattern appears to hold for criminal behavior. Adolescents with lower self-esteem are more likely to enact criminal acts as adults (Trzesniewski et al. 2006). These relations – between self-esteem and delinquent or criminal behavior – persist when factors known to influence such behaviors are controlled, including parental support, socioeconomic status, and intelligence. The reverse does not appear to be true; delinquent or criminal acts do not cause lower self-esteem.

Whether lower self-esteem is associated with greater aggression and violence is more difficult to determine. The longitudinal study of delinquent behavior described above (Donnellan et al. 2005) also examined aggression and observed parallel results, suggesting that lower self-esteem causes aggression. But a number of laboratory experiments have found that excessively high self-esteem – in the form of narcissism – predicts greater aggression in response to insults and criticism (Baumeister et al. 1996). This phenomenon has been called narcissistic aggression or threatened egotism. Individuals with higher self-esteem may, in certain situations, be more prone to aggression, particularly when their positive self-views have been challenged or called into question. This relation between excessively high self-esteem and aggression has been observed both inside and outside the lab and may contribute to criminal violence. Overall, both low and excessively high self-esteem are related to aggression.

Self-Esteem and Physical Health

People with lower self-esteem tend to experience poorer physical health over time. Evidence suggests that low self-esteem is associated with self-reports of poorer physical health and compromised ability to recover from illness (Stinson et al. 2008). Although frequent or chronic illness may reduce self-esteem, it appears that self-esteem has a prospective effect on physical health.

There are at least three ways that low self-esteem may hamper physical health. First, individuals with low self-esteem may be less likely to enact health-promoting behaviors, such as breast self-examinations (e.g., Smits and Kee 1992). There are no clear links, however, between low self-esteem and actively damaging health behaviors such as smoking or alcohol abuse (Baumeister et al. 2003). One exception is the link between lower self-esteem and disordered eating, such as bulimia, which can cause significant negative health consequences. Second, lower self-esteem may cause poorer health through reactions to stressful life events. Individuals with lower self-esteem are more prone to experience stress, and when they do, they experience more pronounced and prolonged release of the stress hormone cortisol (e.g., Pruessner et al. 1999). Over time, cortisol causes a variety of negative health consequences. Third, lower self-esteem may cause poorer health because it undermines the quality of social bonds (Stinson et al. 2008). Low self-esteem individuals feel less secure and valued in their social relationships. Supportive relationships foster healthy physical functioning (e.g., dampened cortisol response). Consequently, lower self-esteem individuals may experience poorer health because they more often lack clearly supportive relationships.

Self-Esteem and Close Relationships

Are the close relationships of lower self-esteem individuals manifestly poorer than those of higher self-esteem individuals, or do lower self-esteem individuals only see them that way? The answer to this question is not straightforward. There is evidence that lower self-esteem individuals are biased to see relationships in more negative terms than is warranted by their partners'

expressed feelings of affection for them. People with lower self-esteem view the world in generally more negative terms, and this general negativity may color their perception of relationships (Baumeister et al. 2003).

Accordingly, some studies have found no relationship between self-esteem and actual acceptance by others. When participants in one study interacted with a series of individuals that they had not previously met, those with lower self-esteem believed their interaction partners liked them less than higher self-esteem individuals (Campbell and Fehr 1990). But actual reports by the partners did not bear out these perceptions. Lower self-esteem individuals were as well liked as high self-esteem individuals. Similar processes affect ongoing relationships. Lower self-esteem individuals underestimate how much their romantic partners value them and fail to notice their partners' efforts to support them after difficult disclosures (MacDonald and Leary 2012). In fact, lower self-esteem individuals may discount their partners' positive efforts, seeing them as attempts to placate them rather than genuine acts of affection (Lemay and Clark 2008).

But individuals with lower self-esteem may also behave in ways that genuinely undermine the quality and quantity of their social bonds. According to risk regulation theory, situations that threaten relationships create motivational conflict between the desire to protect oneself from the pain of rejection and the desire to maintain closeness with relationship partners (Murray et al. 2006). Because higher self-esteem individuals possess more psychological resources, they may be better equipped to act in ways to preserve the relationship. They can, in effect, make themselves vulnerable to rejection for the greater good of the relationship because of their greater resilience. Lower self-esteem individuals, lacking such resilience, may often react in self-protective ways that are not relationship promoting. Indeed, a number of studies have observed that higher and lower self-esteem individuals behave differently in relationships primarily when the relationship is at risk or uncertain. Higher self-esteem individuals behave in more likeable ways than lower self-esteem individuals when there is a risk of

interpersonal rejection (Cameron et al. 2010). Of course, the possibility of rejection is common in romantic relationships, and the potential pain of rejection increases with greater closeness. Perhaps as a consequence, the romantic partners of lower self-esteem individuals report less relationship satisfaction and commitment than those of higher self-esteem individuals (Robinson and Cameron 2012).

Functions of Self-Esteem

Many theories in psychology assume that people have a fundamental need or desire to hold positive self-views. Until relatively recently, however, little research focused on why this might be so. Does self-esteem serve a purpose? One answer to this question is firmly rooted in the role of self-esteem in interpersonal relationships. It also draws on evolutionary theory to consider why humans may have evolved a prominent sense of self-esteem.

Evolutionary Theories

Sociometer theory argues that people are motivated to achieve higher self-esteem not because it is inherently desirable or useful but because it acts as a gauge of social acceptance or as a "sociometer" (MacDonald and Leary 2012). From this perspective, lower self-esteem is a signal that one is at risk of social exclusion or rejection, which should motivate behavior that can repair social relationships. Just as hunger evolved to signal the need for nutrients and food, low self-esteem may have evolved to signal the need for greater social inclusion. In our distant evolutionary past, being accepted as part of a social group may have substantially enhanced one's chances of survival. Accordingly, a signal of the need to attend to social relationships may have had significant adaptive value. Consistent with this possibility, experiences of social rejection cause sharp drops in state self-esteem, and poor-quality relationships are associated with decreased trait self-esteem over time. People with lower self-esteem are generally lonelier, feel less socially accepted and supported, and perceive their relationships to be of poorer quality than those with higher self-esteem.

Rather than a general, undifferentiated gauge of social inclusion, Kirkpatrick and Ellis (2001) suggest that self-esteem may reflect a suite of psychological responses to distinct evolutionary challenges (or a collection of sociometers). In addition to maintaining social inclusion, our ancestors needed to negotiate a number of more specific and recurrent social challenges, including mate selection, attaining and retaining social status, and forming alliances with others. Distinct facets of self-esteem may thus have evolved to monitor mate value, social dominance, prestige, inclusion, and collective worth and to motivate behaviors specific to these domains. Supporting this model, people with more positive self-evaluations in specific domains (e.g., in terms of superiority or mate value) selectively react with hostility to threats to those specific domains (Kirkpatrick et al. 2002).

Sociometer theory focuses on a status-tracking function for self-esteem – the possibility that one’s standing with others influences feelings of self-esteem. More recently, it has been suggested that self-esteem may also serve a status-signaling function. That is, self-esteem may influence one’s standing with others or how one is viewed by other people (Cameron et al. 2013; Zeigler-Hill 2012). People with high self-esteem are, indeed, viewed more favorably by others than those with low self-esteem. When another person’s apparent self-esteem is manipulated experimentally, moreover, that person is evaluated more positively on a variety of dimensions, including romantic attractiveness (Zeigler-Hill and Myers 2011).

Terror Management Theory

An alternative view of the function of self-esteem is rooted in existentialism. Terror management theory argues that humans’ capacity to appreciate their own mortality could create debilitating anxiety (Pyszczynski et al. 2004). Consequently, people developed psychological systems that allow them to manage existential anxiety and function with the knowledge of their own certain death. According to this theory, people construct worldviews that establish stability and meaning and offer the possibility of literal or symbolic

immortality. Religions, for example, often promise the possibility of an afterlife, whereas secular worldviews may offer the hope that one’s accomplishments will be remembered after death. High self-esteem then results from meeting the standards prescribed by one’s cultural worldview. Lower self-esteem results from failing to do so. In this way, self-esteem may buffer people from existential anxiety. Consistent with this possibility, higher self-esteem individuals experience less overall anxiety than lower self-esteem individuals, accept greater vulnerability to early death, and react less defensively when reminded of their own mortality.

Self-Esteem as a Buffer Against Failure

A final perspective on the purpose of self-esteem is not a formalized theory but a description of how self-esteem affects reactions to failure and setbacks. It has been repeatedly demonstrated that people with higher self-esteem handle negative events better than those with lower self-esteem. Lower self-esteem individuals experience prolonged physiological stress and psychological distress after social rejection, failure, or other negative events (Brown 2010). These results may suggest that “high self-esteem functions primarily to enable people to fail without feeling bad about themselves” (Brown 2010, p. 1389). This does not mean that higher self-esteem individuals are not disappointed by negative outcomes, only that they are not as distressed or hard on themselves as are lower self-esteem individuals. This may be because higher self-esteem individuals have more psychological resources to draw on when negative events occur. Self-affirmation theory argues that higher self-esteem individuals can maintain an overall sense of self-worth in the face of ego-threatening events by affirming their positive qualities in domains unrelated to the threat (Spencer et al. 1993). If, for example, a higher self-esteem individual fails an important exam, she may be able to focus on her athletic prowess, musical ability, fulfilling relationships, and so on, in ways a lower self-esteem individual could not. This is because higher self-esteem individuals see themselves positively in more domains than lower self-esteem individuals.

What Affects Self-Esteem?

Self-esteem is undoubtedly determined by a complex mix of nature and nurture, of the effects of heredity and personal experiences. Individual differences in self-esteem are relatively stable by adolescence. Accordingly, experiences in early childhood may affect self-esteem. Parenting styles during childhood, for example, appear to exert influence on later self-esteem (e.g., DeHart et al. 2006). The genetic contributions of both parents may also influence self-esteem through their effect on a child's temperament (Neiss et al. 2002). Children who are temperamentally disposed to experience heightened negative affect or display strong reactions to stress may be more likely to develop lower self-esteem if they experience aversive social environments in childhood.

The feelings of self-esteem that develop in childhood tend to be stable throughout life, in the sense that individuals who report higher self-esteem in adolescence tend to report higher self-esteem than their peers throughout their lives (Trzesniewski et al. 2013). Put differently, differences in self-esteem between individuals are relatively stable over time. But there are also predictable developmental changes in average levels of self-esteem across the life span. Self-esteem is generally high in childhood and then sharply declines as children transition into adolescence (Robins et al. 2002). From there, self-esteem increases steadily through adolescence into young adulthood and midlife, peaking around age 50–60 (Orth et al. 2012). Self-esteem then declines into old age.

Although differences between individuals in self-esteem are typically stable, life events (such as divorce) can exert a significant effect on self-esteem. Because self-esteem is potentially malleable, many approaches to psychotherapy – such as cognitive behavioral therapy, humanistic therapy, and motivational enhancement therapy – include efforts to enhance self-esteem (Mruk and O'Brien 2013). Cognitive behavioral therapy (CBT), for example, aims to enhance self-esteem by helping people to recognize and correct cognitive distortions that can cause feelings of worthlessness, such as overgeneralization, all-or-none thinking, and

selectively focusing on negative events. Numerous self-help books also describe techniques intended to enhance self-esteem, but their efficacy remains largely untested. There is even evidence that some self-help techniques – such as repeating positive self-statements – can be detrimental to individuals with lower self-esteem, making them feel worse about themselves (Wood et al. 2009).

Conclusion

Self-esteem is generally considered to be an overall sense of self-worth or evaluation of one's self. It can reflect a generally stable trait or short-term feelings about the self that fluctuate in response to life events, such as successes and failures. It is most commonly assessed by self-report scales that directly ask participants about their self-evaluations, but a number of indirect measures have also been developed to assess self-esteem. Respondents are not informed that these indirect measures assess self-esteem, and it is possible that these indirect measures may actually assess a distinct form of self-esteem known as implicit self-esteem. The relation of self-esteem to objective life outcomes, such as academic and job performance, relationship quality, and physical health, remains somewhat unclear, but self-esteem is consistently related to important subjective outcomes, such as job satisfaction, relationship satisfaction, and mood disorder symptoms. Relatively little research has focused on why people possess such a prominent sense of self-esteem, but some models propose possible evolutionary origins of self-esteem or a role for self-esteem in buffering existential anxiety. Self-esteem is relatively stable after adolescence but does also follow predictable developmental changes across the life span. The potentially malleable nature of self-esteem means that a number of psychotherapies include components intended to enhance feelings of self-worth.

Cross-References

- ▶ [Contingent Self-Esteem](#)
- ▶ [Cultural Differences in Self-Esteem](#)

- ▶ [Fragile Self-Esteem](#)
- ▶ [Implicit Association Test](#)
- ▶ [Implicit Egotism](#)
- ▶ [Implicit Self-Esteem](#)
- ▶ [Introjected Regulation](#)
- ▶ [Rosenberg Self-Esteem Scale](#)
- ▶ [Scar Model](#)
- ▶ [Self-Esteem and Belongingness](#)
- ▶ [Self-Esteem and Security](#)
- ▶ [Self-Esteem and Social Status](#)
- ▶ [Self-Esteem Instability](#)
- ▶ [Sex Differences in Self-Esteem](#)
- ▶ [Sociometer Theory](#)
- ▶ [State Self-Esteem Scale](#)
- ▶ [Terror Management Theory](#)

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Self-Esteem and Acceptance

► [Self-Esteem and Belongingness](#)

Self-Esteem and Attachment

► [Self-Esteem and Security](#)

Self-Esteem and Belongingness

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Synonyms

[Self-esteem and acceptance](#); [Self-esteem and liking](#); [Self-evaluations and acceptance](#)

Definition

The association of self-esteem, or one's sense of self-worth, with perceived and actual acceptance.

Introduction

A sense of belonging or feeling accepted, liked, and included by others is a fundamental human need (Baumeister and Leary 1995). As will be discussed in greater detail below, self-esteem, or one's sense of self-worth, is empirically linked with perceived and actual belonging. This association holds true both when researchers investigate belonging with state self-esteem (i.e., one's transient and reactive feelings about the self) and with trait self-esteem (i.e., one's relatively stable and chronic feelings about one's self and one's sense of self-worth). Research on the association between self-esteem and belonging can be divided into three different perspectives. First, many researchers have focused on how self-esteem changes in response to experiencing actual belonging. Second, some researchers have focused on the association between self-esteem and perceived belonging. Third, researchers have focused on how impressions of self-esteem can influence actual acceptance and inclusion by others.

Self-Esteem Is Responsive to Actual Belonging

According to the sociometer theory, self-esteem functions as a gauge of interpersonal belonging, alerting individuals to imminent and experienced rejection by dropping self-esteem, and thereby creating a negative mood state and motivating reparative action (Leary et al. 1995). From this perspective, self-esteem and actual belonging are associated because experiences of rejection reduce self-esteem, whereas experiences of acceptance enhance self-esteem. Numerous studies support the sociometer theory's notion that self-esteem is responsive to actual belonging experiences. For example, explicit rejection consistently reduces state self-esteem (e.g., Leary et al. 1995), even when individuals claim that their self-esteem is not contingent upon others' acceptance (Leary et al. 2003). Moreover, research that utilizes objective reports of acceptance and inclusion demonstrates that those who experience actual acceptance sustain higher self-esteem.

Importantly, longitudinal research confirms that people who experience actual acceptance from others develop more positive self-evaluations over time. In one study, Srivastava and Beer (2005) had participants complete various tasks with other participants once a week for 4 weeks. After each session, participants indicated how much they liked each other and also indicated their own self-evaluations. Results provided clear support for the sociometer theory: participants who were liked by others across sessions formed more positive self-evaluations over time. In other words, experiencing acceptance leads to more positive feelings about the self. In sum, real inclusion experiences influence self-esteem.

Self-Esteem and a Sense of Belonging

Some researchers have argued that trait self-esteem, once formed, acts as a perceptual filter through which people perceive the outside world as a reflection of one's inner world (Baumeister et al. 2003). Self-esteem and belonging are therefore interlocked because self-esteem influences

the filter through which people perceive acceptance. From this perspective, those with lower self-esteem generally perceive the world with a more negative lens; experiencing less belonging even when acceptance is actually present. Some correlational research suggests that this might indeed be the case: people with higher trait self-esteem report a greater sense of belonging within their ongoing relationships and daily interactions with others compared to those with lower trait self-esteem (Leary et al. 1995; Study 5). More importantly, results from research comparing perceptions of acceptance to reality suggest that self-esteem does indeed bias one's sense of belonging. For instance, people with higher, compared to lower self-esteem, perceived greater acceptance when first meeting others in face-to-face interactions, even though self-esteem was unrelated to actual acceptance (Brockner and Lloyd 1986). Even when actual acceptance is held constant across participants, self-esteem predictably shapes perceptions of belonging (Cameron et al. 2010).

Some researchers have argued that the self-esteem bias in perceptions of belonging is driven by motivational mindsets elicited by certain situations. Specifically, situations that have the potential to result in rejection activate a self-protective motivational mindset among those with lower self-esteem and activate a promotive mindset among those with higher self-esteem that is aimed at creating and maintaining connections with others (e.g., Cameron et al. 2010). Importantly, these motivational mindsets, once activated, influence perceptions of acceptance. For example, when meeting new people, a situation ripe for potential rejection, people with higher self-esteem expect (Anthony et al. 2007) and perceive greater acceptance (Brockner and Lloyd 1986) compared to those with lower self-esteem. However, when these motivational mindsets are "turned off," such as when the possibility of rejection is made less salient, these motivational differences and their subsequent influence on perception can be eliminated. For example, in one series of studies, Cameron and her colleagues (2010) consistently demonstrated that when rejection was neither possible nor salient, people with

lower self-esteem did not suffer reduced perceptions of acceptance compared to when rejection was more salient. In sum, one of the driving forces behind self-esteem differences in perceptions of belonging is the differential motivations activated by the possibility of rejection.

Self-Esteem's Influence on Actual Belonging

In addition to the sociometer and perceptual accounts of actual and perceived belonging, a third explanation for the association between self-esteem and belonging is that self-esteem itself might elicit acceptance. From this general perspective, sometimes referred to as self-broadcasting or status signaling, those with higher self-esteem behave in more socially desirable ways, which engenders greater acceptance from others (see Zeigler-Hill et al. 2013). Although trait self-esteem is unrelated to actual acceptance when meeting new people (e.g., Brockner and Lloyd 1986), observers are not so neutral when they believe someone has high or low self-esteem. Across numerous studies, when people believe that another person has high self-esteem, either because the researcher described the individual that way or they arrived at that impression on their own, they readily describe that person as possessing more desirable characteristics (e.g., Zeigler-Hill et al. 2013) and as highly likeable (see Stinson et al. 2015). When a person is seen as possessing low self-esteem however, they are viewed as less acceptable and less desirable. In sum, people use their impressions of another person's self-esteem directly to determine their acceptance of that person.

Conclusion

Self-esteem is positively associated with belongingness. Research supporting the sociometer theory suggests that actual belongingness creates self-esteem; those who are accepted by others experience enhanced self-esteem, whereas those who are rejected experience reduced self-esteem.

However, self-esteem also creates expectations for belongingness, which translates into confirming perceptions of acceptance or rejection. People also use others' signals of self-esteem as a shortcut to forming impressions about them, which in turn influence their actual acceptance of these individuals. In sum, self-esteem is not only a result of actual belonging and an influential filter of belongingness but also serves as a cue to others when forming judgments of acceptance.

Cross-References

- ▶ [Contingent Self-Esteem](#)
- ▶ [Need to Belong](#)
- ▶ [Self-Esteem](#)
- ▶ [Self-Esteem and Belongingness](#)
- ▶ [Self-Esteem and Security](#)
- ▶ [Self-Esteem and Social Status](#)

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Self-Esteem and Liking

- ▶ [Self-Esteem and Belongingness](#)

Self-Esteem and Relational Security

- ▶ [Self-Esteem and Security](#)

Self-Esteem and Security

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Synonyms

[Self-esteem and attachment](#); [Self-esteem and relational security](#)

Definition

The association between self-esteem, or one's sense of self-worth, and attachment security, or the quality of one's social bonds with others.

Introduction

Attachment security refers to the degree to which individuals feel, think, and behave in ways that support personal and relational well-being (Mikulincer and Shaver 2007). According to attachment theory, early experiences with caregivers form a lifelong basis for individuals' understanding and automatic reactions toward the self and others (Bowlby 1969/1982). Given the central role of the self in attachment theory, researchers have been keenly interested in how attachment security relates to self-esteem, or one's sense of self-worth. Numerous studies have investigated this question, using both cross-sectional and longitudinal designs among both adolescent and adult samples. Overall, self-esteem is positively associated with attachment security whereby those with more secure attachment also experience higher self-esteem. Below, we outline the theoretical rationale for the association between attachment security and self-esteem and discuss the empirical evidence for this association.

Attachment Security

The attachment system is considered a functional, goal-directed system, aimed at increasing the survival of the organism through behaviors that elicit felt security (Bowlby 1969/1982). In other words, people feel secure when they believe that others will protect them in times of need. By seeking proximity to significant others, referred to as attachment figures, one increases the likelihood of survival, especially among infants and young children (Mikulincer and Shaver 2007). Although the attachment system might be an adaptive and universal part of human development, different types of experiences with caregivers create different behavioral and emotional responses and, thus, different attachment styles. In early development, individuals who are fortunate enough to have caregivers who are supportive and responsive will develop secure attachment styles, whereas those who have caregivers who are neglectful, inconsistent, or even abusive will develop insecure attachment styles. Bowlby (1969/1982)

argued that these attachment styles would persist and continue to influence later relationships with friends and romantic partners. The underpinnings of this argument rely on the formation of mental representations. Essentially, as the child learns to expect certain reactions from caregivers, the child forms a mental representation of the caregiver (model of other) and a mental representation of the self (model of self). These mental representations underlie attachment style and provide the basis for expectations for future interactions with others (Mikulincer and Shaver 2007).

Secure attachment is reflected in both positive models of the self and positive models of others (Griffin and Bartholomew 1994). In other words, people with attachment security believe that they are competent and worthy of love (i.e., positive model of self) and believe that others are trustworthy and will be supportive when needed (i.e., positive model of other). Secure attachment is typically measured as low attachment anxiety (i.e., low fears of abandonment) and low attachment avoidance (i.e., low distress surrounding closeness and dependence). Insecure attachment, however, can be expressed as high attachment anxiety, high attachment avoidance, or as scoring high on both anxiety and avoidance. Those who experience high attachment anxiety have negative models of self, doubting their worth as a lovable person worthy of responsive care from others, and thus experience greater anxiety and fear that an attachment figure will remove support or completely abandon them. However, those with high attachment avoidance have negative models of others, believing that others are generally untrustworthy, and, thus, experience greater discomfort in situations where they must trust or depend upon others.

The Association Between Attachment Security and Self-Esteem

From a theoretical perspective, one of the dominant theories regarding self-esteem, the sociometer theory (Leary and Baumeister 2000), shares some similarities with attachment theory. According to both attachment theory and

sociometer theory, the individual is motivated to maintain a sense of well-being, translated as felt security in attachment theory and self-esteem in sociometer theory. Moreover, both theories share a common theme that this sense of well-being is maintained by the acceptance of others (Holmes and Cameron 2005). Looking more deeply we see that self-esteem and models of self are both broadly defined as an assessment of one's own worth. Thus, individuals with secure attachment, or more specifically, positive models of self or low attachment anxiety, should also have higher self-esteem. Conversely, those with insecure attachment, or more specifically those with negative models of self or high attachment anxiety, should have lower self-esteem. Indeed, dozens of studies have confirmed this exact pattern (see Mikulincer and Shaver 2007, for a review).

For example, Feeney and Noller's (1990) study on young adults found that those with secure attachments reported higher self-esteem. In one longitudinal study, secure attachment was associated with greater increases in self-esteem a year later among adolescent boys (Kenny et al. 1998). Moreover, studies that have specifically measured models of self or attachment anxiety show that self-esteem and models of self are positively linked (Griffin and Bartholomew 1994). Importantly, the association between self-esteem and model of self appears to be relatively universal. Schmitt and Allik (2005) surveyed people across 53 different countries and found that self-esteem was consistently correlated with model of self. From Argentina to Zimbabwe and from Japan to the United Kingdom, people with higher self-esteem also possessed more positive attachment models of self.

Model of Other

Compared to the consistent association between self-esteem and model of self, the link between self-esteem and model of other is less clearly understood. The dozens of studies investigating the association between self-esteem and attachment find rather mixed results regarding the correlation between self-esteem and model of other

and related forms of insecure attachment such as avoidant attachment (see Mikulincer and Shaver 2007). Some studies reveal no correlation between self-esteem and model of other (e.g., Griffin and Bartholomew 1994). From a theoretical perspective, such findings make sense. Individuals' sense of whether others are trustworthy (i.e., model of other) should not necessarily impact their own self-evaluation or self-esteem. However, other researchers tend to find correlations between self-esteem and indicators of model of other, such as avoidant attachment scales. For example, Schmitt and Allik (2005) found that in 34% of the 53 countries they surveyed, self-esteem was positively correlated with model of other. Although self-esteem is unrelated to model of other in the majority of countries surveyed, such as Mexico and Lebanon, in countries such as Canada and the United States, having more positive views of the trustworthiness of others is linked with having more positive assessments about the self. It is possible that these mixed results reflect a rather complicated picture of the model of other. Those with avoidant attachment have negative models of other but claim to have positive models of self. Some have argued that the positive self-evaluations of avoidant individuals are defensive exaggerations aimed at bolstering self-esteem in the face of experiencing rejection from attachment figures (Mikulincer and Shaver 2007). Moreover, avoidant individuals have rather low self-clarity, suggesting that their own self-knowledge is lacking (Davila and Cobb 2003). Thus, the inconsistent association between self-esteem and avoidance might represent the notion that avoidant individuals are defensively exaggerating their self-worth, and thus, any association between self-esteem and avoidance represents an illusion. On the other hand, the sometimes found correlation between self-esteem and model of other may be an artifact of measurement and not a reflection of a real association between self-esteem and model of other. For instance, many popular attachment measures tend to report that attachment anxiety and avoidance, two indicators of models of self and other, are correlated (Cameron et al. 2012). Thus, associations between self-esteem and avoidance might only

reflect the shared variance between avoidance and anxiety which is known to correlate with self-esteem. Certainly, the mixed results for the association between self-esteem and model of others warrant further research.

Conclusion

Self-esteem is positively associated with attachment security: those who experience higher self-esteem also report more secure attachment styles and are especially more likely to have positive models of self. From the converse perspective, people with lower self-esteem are more likely to be insecurely attached and are especially more likely to have anxious attachment with negative models of self. The link between self-esteem and models of other or avoidant attachment is rather mixed.

Cross-References

- ▶ [Attachment Theory](#)
- ▶ [Insecure Attachment](#)
- ▶ [Parent-Child Relationships](#)
- ▶ [Personality and Familial Relationships](#)
- ▶ [Personality and Romantic Relationship Satisfaction](#)
- ▶ [Self-Esteem](#)
- ▶ [Self-Esteem and Belongingness](#)
- ▶ [Self-Esteem and Security](#)

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Self-Esteem and Social Status

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Definition

Social status is the perceived or actual standing of an individual relative to others on a dimension of social relevance (e.g., traits, economic standing, abilities). *Self-esteem* is a person's global evaluation of their worth and competence. This entry examines the relation between the two constructs.

Introduction

Social status is important and consequential for individuals in human societies (Fiske 2010). Broadly defined, social status is the perceived or actual standing of an individual relative to others on a dimension of social relevance, including but not limited to traits (e.g., competence, warmth), resource

attainment (e.g., income, education), roles (e.g., occupation, leadership positions), performances and abilities (e.g., class rank, athleticism), physical attributes (e.g., attractiveness, weight), behaviors (e.g., exercise frequency, volunteer hours in the community), and future prospects (e.g., cancer risk, earning potential). Critically, achieving high social status relative to others is considered to be a foundational element of psychological well-being (Singh-Manoux et al. 2003; Taylor and Brown 1988) and physical health (see Adler and Rehkopf 2008 for review). For purposes of this entry, we focus on the link between social status and a key indicator of well-being: self-esteem.

Self-esteem can be defined as a person's global evaluation of their worth and competence, a positive or negative attitude about the self (Coopersmith 1967). Self-esteem is typically assessed using self-report measures that inquire about general or specific self-beliefs (e.g., "I am able to do things as well as most other people") or emotional states (e.g., "I feel good about myself"). Moreover, self-esteem is conceptualized and assessed as both a stable and temporary construct. That is, while a person's self-esteem can be relatively stable over time, it can also fluctuate depending upon the context. Finally, self-esteem serves a variety of functions (e.g., social acceptance; Leary et al. 1995) and can be viewed as part of a larger constellation of constructs that indicate a person's psychological health (Taylor and Brown 1988). Here we focus on how self-esteem (consequence) is affected by social status (antecedent), though it is notable that self-esteem can be treated as an antecedent, a consequence, or a moderator variable shaping the link between social status and other consequence variables (e.g., mood).

Understanding the Link Between Social Status and Self-Esteem

Experimental and correlational research has been conducted to examine the link between social status and self-esteem. In a prototypical experimental study, researchers manipulate a person's relative social standing compared to some referent (e.g., other participants in the room, the average

person) on a specific dimension (e.g., performance on intelligence test, frequency of an adaptive health behavior such as exercise) and measure subsequent changes in self-evaluations and emotions, including self-esteem. In a prototypical correlational study, researchers assess a person's perceived social standing and self-evaluations on a dimension of interest and their self-esteem or emotions. Although there are exceptions (see below), the majority of this experimental and correlational research shows that having low actual or perceived social status is associated with lower well-being (e.g., self-esteem) and self-evaluations on the target dimension.

Why Does Social Status Impact Self-Esteem?

Decades of research has revealed that people use status-based information to regulate their emotions, evaluate their characteristics, make decisions, and guide their behavior (Festinger 1954; for review see Suls and Wheeler 2000). In relation to the current entry, people's emotions and well-being (e.g., self-esteem) are highly impacted by their actual or perceived social status on a variety of dimensions (e.g., attractiveness, popularity, academic or job performance, socioeconomic status) because they compare their current self-impressions on the relevant dimension to the status of others who are higher or lower. This comparison is sufficient to cause temporary shifts in self-evaluations on the target dimension which, in turn, leaves a psychological trace (positive or negative) on global evaluations of worth and competence. Socially based reference points are desirable because most characteristics are subjective, intrinsically relative, and lack objectively quantifiable evidence. For example, describing someone as intelligent or friendly implies a low comparative reference point. Thus, people require (social) reference points for contextualization in the service of self-evaluation (for description see Rose 2010).

Moreover, even when objective information is available (Klein 1997) or social standing can be discounted as irrelevant or uninformative (Gilbert et al. 1995), social status information still impacts emotions and well-being. For example, the frog pond effect suggests that people who are objectively worse off on some absolute metric

(e.g., income, SAT scores) will, under the right circumstances, paradoxically have greater well-being than people who are better off on the same absolute metric (Davis 1966). For example, imagine the following students from two high schools: Student A had a high standardized test score and Student B had a more moderate score. Objectively the first student has the higher absolute score and should feel best. However, Student A comes from a relatively high-achieving school where his/her status on the test *relative to others* is average. On the other hand, Student B comes from a low-achieving school where his/her status is above average. Based on the social relevance of the domain, Student B – who had the lower absolute, objective score – will feel better due to his/her high social status (i.e., the student is a big fish in a little pond). Relatedly, social comparison information is typically most impactful when the comparison targets are close to the perceiver (e.g., one's circle of friends), even when nonsocial information or larger-scale comparisons would be more objectively useful. This is thought to be due to the evolutionary importance of knowing one's standing in a given society and fulfilling the need to belong (Zell and Alicke 2010). In sum, the emotional and psychological pull of social information is unavoidable and powerful. Ultimately, the consequence of this reliance on and interest in social reference points is that social standing plays an important role in shaping well-being – for the better or worse depending upon a person's standing.

When Does Social Status Impact Self-Esteem?

As indicated above, having low (high) social status is usually associated with poor (good) self-esteem. While this is the principal finding, there are important individual difference variables and situational factors that can shape the magnitude (and sometimes direction) of the impact of social status on self-esteem (e.g., see Blanton 2001). In terms of individual differences, the social status-self-esteem link is more apparent in some individuals than others. First, people high in social comparison orientation (SCO; Gibbons and Buunk 1999) – a person's generalized tendency for making social comparisons – appear to be more impacted by perceived or actual social

status. For example, in one recent study, participants high (but not low) in SCO had lower self-esteem after making social comparisons to others' virtual lives on a social media platform (Vogel et al. 2015). Second, a person's dispositional level of self-esteem can impact the effect of social status information on temporary well-being and mood (Aspinwall and Taylor 1993). In particular, a person with stable high self-esteem might, on occasion, benefit from learning that they are of lower social status because this might serve to inspire them to be more like this higher status person (Blanton 2001). Third, age may be a relevant factor as well. Indeed, there is evidence that children's self-esteem may be less affected by social standing due to the fact that children perceive their social environments as being more homogenous than do adults (Rosenberg and Pearlman 1978).

In terms of situational factors, the social status-self-esteem link is more apparent in particular contexts. The vast majority of research involving situational variables focuses on the variety of different referents with which people can either receive or perceive their social standing. Indeed, these referents can vary on important dimensions (e.g., demographic characteristics, specificity, closeness) that may shift the magnitude (and sometimes direction) of the impact of status on self-esteem. First, one important dimension appears to be the extent to which a referent is specific and localized (e.g., friends) versus more general and global (e.g., average person in American society). According to recent research (Haught et al. 2015), a person's self-esteem (and well-being in general) was better predicted by status comparisons to larger, global referent groups (e.g., average person in American society) than small, local referent groups (e.g., friend). This is possibly due to the fact that people can more easily reach self-enhancing conclusions when comparing with global referent groups than local referent groups, which is important for boosting self-esteem (although see Zell and Alicke 2010). Second, if a referent group is viewed as irrelevant (e.g., an adult's running ability compared to a young child's) or very different from the self on the basis of some personal characteristic (e.g., age, race), status should have a

weakened impact on self-esteem and well-being. Third, on occasion, features of the referent group can produce the opposite effect from what has been discussed thus far for the impact of social status on self-esteem: that is, high-status individuals would report *lower* self-esteem, whereas low status individuals would report *higher* self-esteem. In particular, when a person focuses on similar referents that are just above (below) the self on some dimension *and* they feel that this other person's status is attainable, this can produce an increase (decrease) in self-evaluations and well-being (Blanton 2001). For example, imagine that a high-status person focuses on a referent or set of referents just below him or her on the income ladder. If these other referents are viewed as similar and relevant to the self and the person could see him or herself dropping in status to match such individuals, this could promote worry and a drop in self-esteem.

Conclusion

In summary, social status is importantly linked with self-esteem. People who have high (low) perceived or actual status tend to have good (poor) self-evaluations of worth and competence. Although different personal characteristics and situational factors can constrain this relationship, social status remains one of the most consistent and robust predictors of well-being.

Cross-References

- ▶ [Self-Esteem](#)
- ▶ [Social Comparison Theory](#)
- ▶ [Sociometer Theory](#)

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Self-Esteem Instability

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Synonyms

Barometric self-esteem; Self-esteem stability; Self-esteem variability; Stable or unstable self-esteem

Definition

Self-esteem instability refers to one's dispositional tendency to experience fluctuations in context-specific feelings of self-worth. People possess characteristic levels of trait self-esteem (i.e., whether self-esteem is high or low) that are stable, but also experience context-specific changes in state self-esteem. People differ characteristically in the extent to which they experience such fluctuations. Some people possess stable self-esteem that varies little across time, whereas others possess unstable self-esteem that varies more considerably over short durations.

Introduction

Research into self-esteem has focused predominantly on the determinants, implications, and consequences of having high or low self-esteem (i.e., self-esteem level), that is, on people's dispositions to feel positively or negatively toward themselves or view themselves as having value and worth as

individuals. However, the psychological character of one's self-esteem may also depend significantly on whether it is stable or unstable. Self-esteem instability is the extent to which one's context-specific, state self-esteem fluctuates across different situations or over short periods of time. Although people possess relatively enduring levels of trait self-esteem that characterize how they generally feel about themselves, they may also display marked variability in momentary feelings of state self-esteem. One may feel more positive self-feelings after succeeding at a difficult task, for example, or more negative self-feelings after experiencing social rejection. Notably, some people display greater variability (i.e., instability) in their state self-esteem than others (Kernis et al. 1993; Rosenberg 1986). Rosenberg (1986) distinguished between *baseline* instability in self-esteem, which reflects gradual, long-term changes in one's trait level of self-esteem, and *barometric* instability, which reflects short-term, more erratic changes in state self-esteem over time. It is this form of short-term variability in self-esteem that has been principally studied as self-esteem instability.

Assessing Self-esteem Instability

Two approaches have been taken to assess self-esteem instability. The first is through self-report. The Stability of Self Scale asks respondents to indicate the extent of their agreement with statements like, "Some days I have a very good opinion of myself; other days I have a very poor opinion of myself" (Rosenberg 1965). Although appealing in its ease of administration, this approach may not reflect the extent to which people's self-esteem actually fluctuates. One limitation of the measure is that self-esteem instability need not be extreme, ranging from highly positive to negative self-feelings across different days. It may instead reflect relatively subtle variation in the degree of positivity one feels toward oneself.

The other approach to assessing self-esteem instability is to repeatedly administer a global measure of self-esteem to respondents at multiple points in time, typically once or twice a day for a

period of several days or weeks. These self-esteem scales are administered with state instructions, asking respondents to indicate how they feel about themselves in the moment, as they complete the scale, rather than how they generally feel about themselves (e.g., Kernis et al. 1989, 1993). The observed degree of variability in their reports of state self-esteem can then be assessed and quantified by the standard deviation of their state self-esteem scores over time. This index reflects the actual degree of variability in people's reports of state self-esteem over time. Notably, self-esteem instability assessed in this way does not correlate with self-reports, such as scores on the Stability of Self Scale (Kernis et al. 1992). When people are asked, moreover, to estimate how much their scores on a measure of state self-esteem will fluctuate during a specified period of time, their estimates correlate with scores on the Stability of Self Scale, but not with the actual degree of variability observed in their state self-esteem scores during that period. These findings suggest that people do not have good insight regarding the extent to which their self-esteem fluctuates. Accordingly, most research on self-esteem instability has focused on variability in actual reports of state self-esteem over time.

Self-esteem Instability, Psychological Well-being, and Defensiveness

Unstable self-esteem is considered to be a form of fragile self-esteem, because it varies readily in response to recent life events (Kernis 2005). Individuals with unstable self-esteem often possess contingent self-esteem – context-specific self-evaluations that depend significantly on meeting self-imposed standards of performance, social approval, or acceptance (Kernis 2005). Indeed, individuals with more unstable self-esteem display more substantial fluctuations in their state self-esteem in response to positive and negative events in their daily lives (Greenier et al. 1999). Perhaps because of this, they also tend to function more poorly psychologically, displaying more depressive symptoms, more anxiety, poorer social adjustment, and lower life satisfaction

(e.g., Franck and De Raedt 2007; Kernis et al. 1991; see, Kernis 2005, for a review). Unstable self-esteem is also negatively, though modestly, correlated with lower trait self-esteem; that is, people with lower trait self-esteem tend to display greater variability in state self-esteem. However, individuals with high trait self-esteem can also display considerable self-esteem instability. In fact, self-esteem instability can be more consequential for individuals with high self-esteem (e.g., Kernis et al. 1989, 2008).

Individuals with high trait self-esteem vary in the extent to which their self-esteem is secure or fragile (Kernis 2003). Individuals with secure high self-esteem have positive self-feelings that are well anchored and not easily challenged. They like and accept themselves but recognize and acknowledge their limitations and shortcomings. Individuals with fragile high self-esteem, in contrast, have positive self-feelings that are tenuous and highly vulnerable to threat. These individuals expend considerable effort reassuring themselves of their positive self-images and seeking social validation of them. Considerable evidence indicates that high self-esteem that is unstable represents one form of fragile high self-esteem. For example, high self-esteem individuals with more unstable self-esteem are more boastful and self-aggrandizing in their social interactions (Kernis et al. 1997), self-handicap more to capitalize on their personal successes (Kernis et al. 1992), and display more verbal defensiveness (i.e., more denial and distortion of negative emotion) in their descriptions of difficult personal experiences (Kernis et al. 2008). They also display more anger and hostility, which are closely associated with defensiveness (Kernis et al. 1989).

Conclusion

In addition to characteristic trait levels of self-esteem, people vary in the extent to which their state self-esteem fluctuates over relatively short periods of time (i.e., self-esteem instability). Individuals who experience marked variability in their state self-esteem have unstable self-esteem,

whereas those who experience little variability have stable self-esteem. Self-esteem instability is typically measured by assessing state self-esteem at multiple time points in order to directly observe the degree of variability in individuals' reports. It has also been assessed by self-report – having people indicate how much they believe their self-esteem fluctuates – but such reports do not typically correlate with observations of actual fluctuations in state self-esteem. Unstable self-esteem is considered to be a form of fragile self-esteem and is associated with relatively poor psychological functioning. In addition, it predicts defensiveness and aggression among individuals with high self-esteem.

Cross-References

- ▶ [Contingencies of Self-Worth](#)
- ▶ [Contingent Self-Esteem](#)
- ▶ [Fragile Self-Esteem](#)
- ▶ [Self-Esteem](#)

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Self-Esteem Inventory (Coopersmith)

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Synonyms

[CSEI](#); [SEI](#); [SEI-SF](#); [SF-CSEI](#)

Definition

The Coopersmith Self-Esteem Inventory (CSEI or SEI; Coopersmith 1981, 1987, 2002) is one of the most commonly used self-report questionnaires designed to measure attitudes toward the self in a variety of areas (family, peers, school, and general social activities) for adolescents and adults. The CSEI consists of 50 items and yields an overall score and four separate scores representing specific aspects of self-esteem, namely, general self, social self-peers, home parents, and school academic (or professional for adult form). A set of

additional items constitutes a lie scale (defensive responses; eight items). The CSEI comes in three versions: School Form (for ages 8–15 years, Form A), Adult Form (for ages 16 and above, Form C), and Short Form (Form B). All the versions can be used as a screening or/and diagnostic tool in clinical and in research settings.

Introduction

The CSEI (Coopersmith 1981, 1987, 2002) is a self-report questionnaire designed to measure attitudes toward the self in a variety of areas (family, peers, school, and general social activities) among young people and adults. This questionnaire constitutes one of the most commonly used assessments of self-esteem in studies and clinical practice (Blascovich and Tomaka 1991). The CSEI was originally aimed at 8–15 years-olds (School Form, Form A), but a revised form was later designed for respondents over 16 years (Adult Form, Form C; Myhill and Lorr 1978; Ryden 1978). In order to adapt the original form for use with adults, 17 of the 58 items were rephrased (e.g., “kids” was replaced by “people,” “school” by “work”). The CSEI consists of 50 items and yields one global score and four separate scores representing more specific aspects of self-esteem: general self, social self-peers, home parents, and school academic (or professional for adult form). Additional items are included to constitute a lie scale (defensive responses; eight items). The CSEI items require the participant to report feelings about the self directly and are typically scored using a dichotomous scale (“like me” vs “unlike me”). Thus CSEI scores can range from 0 to 50, with higher scores reflecting higher self-esteem.

Psychometric Properties

Factor analyses of 58-item CSEI responses showed mainly a large factor (global score) and four conceptually coherent correlated factors (general self, 26 items; social self-peers, 8 items; home parents, 8 items; and school academic, 8 items). However, factor analyses of both versions Forms A and C have been demonstrated to

be troublesome. Three, five, or eight empirical factors have been described in the various studies exploring the CSEI's factor structure (e.g., Coopersmith 1987; Myhill and Lorr 1978; Roberson and Miller 1986). The measure exposes relatively high internal consistency and test-retest reliability. The various forms of the CSEI have an internal consistency coefficient of between .80 and .92 across diverse cultural populations (Coopersmith 2002; Lane et al. 2002; Turan and Tufan 1987). The CSEI was found to have a test-retest reliability of approximately .70 for adolescents (Form A) over periods of 5–156 weeks and .80 for adults (Form C) over periods of 6–58 weeks. Several studies have demonstrated that these factors were significantly correlated highly with other self-esteem-related constructs (e.g., Rosenberg self-esteem scale, Piers-Harris self-concept scale) with more than 0.55. No studies of discriminant validity were encountered. Mostly, validity has been also established by correlations with academic achievement, anxiety, depression, and neuroticism or extraversion (e.g., Lane et al. 2002). Factor structure, validity coefficients, and correlations with some related scales attest to the CSEI's adequate estimation of both subdomains and global self-esteem.

Short Form

In addition to the standard 58-item scale, a Short Form of the scale (Form B; Coopersmith 1981) is available, which contains just 25 items (drawn from the 50-item scale) and features neither the lie scale nor the subscale scores (Coopersmith 1987; Hills et al. 2007, 2011). Subjected are instructed to respond to statements using the same dichotomous format as the 58-item CSEI. Coopersmith developed this shortened version (SF-CSEI or SEI-SF) as an alternative to the CSEI when time is limited. In theory, Form B is one dimensional (Coopersmith 1987), although its internal validity was not immediately tested. More recently, however, some researchers (Hills et al. 2007, 2011; Potard et al. 2015) have identified a three-factor structure: personal self-esteem, self-esteem derived from parents, and self-esteem derived from peers. None of the studies of the SF-CSEI's validity have revealed a general

self-esteem factor, contrary to what Coopersmith postulated (Coopersmith 1987). The current literature has indicated that the SF-CSEI reported satisfactory reliability and construct validity (with Cronbach's α ranged from 0.68 to 0.77). The internal structure of the Short Form seems to be emerging around these three clear subscales. The SF-CSEI contributes to ease of administration, scoring, and interpretation.

Criticism

The CSEI might be a useful tool for easy-to-use measure of self-esteem, but not immune to criticism. Firstly as previously underscored, its factor structure is debated. Secondly, the response format (dichotomous scale) provides relevant information about the attitudes toward self, but respondents cannot express neutral or moderate attitudes. Responses are more likely to be affected by social desirability bias. In the latter case, the lie scale score emphasizes an association between high self-esteem and social conformism. Thirdly, studies (e.g., Chapman and Mullis 2002) suggested a gender bias within items of the SF-CSEI.

Applications

Numerous studies have indicated that self-esteem is one of the most important risk and protective factors in the development of mental disorders and social problems (Mann et al. 2004). It is therefore especially appropriate to examine differential influences on specific domains of the self in adolescence and adulthood. The CSEI and the SF-CSEI can be recommended for clinical and educational psychologists, to study the related consequences or antecedents of lower self-esteem among adolescents and adults. Also, self-esteem is widely viewed as a major aspect of mental health and is also associated with recovery after severe illness (Mann et al. 2004). Consequently, self-esteem should be an important focus in health promotion, especially mental health promotion. One of the most popular tools is the CSEI, which is commonly used in health promotion and more particularly in mental health research and promotion. The CSEI is a clear, valid, and

reliable self-esteem screening instruments in contexts of prevention and health practice. The SF-CSEI may be appropriate for use in situations where investigators lack the time to administer the standard CSEI but still desire to assess three major sources of self-esteem. In this way, the SF-CSEI can provide multi-outcome perspectives on health promotion (focused on social support, self-perception, or family support).

Conclusion

Self-esteem is a widely used concept in psychology. One of the most popular tools is the CSEI, which is commonly used in clinical research and practice. However, the original version of this questionnaire (58 items) takes 15–20 min to administer, which is too long for some studies. There was a clear need for a shortened version of the standard CSEI for research and practice. Coopersmith (1981) therefore came up with a shortened version (Form B) of his questionnaire, comprising just 25 items. Although the author described this version as a one-dimensional measure, various studies have since contradicted this assumption. The SF-CSEI appears to assess three specific domains of self-esteem (personal, social, and family).

Cross-References

- ▶ [Rosenberg Self-Esteem Scale](#)
- ▶ [Self-Concept](#)
- ▶ [Self-Esteem](#)

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Self-Esteem Levels

- ▶ [Industry Versus Inferiority](#)

Self-Esteem Scale

- ▶ [Rosenberg Self-Esteem Scale](#)

Self-Esteem Stability

- ▶ [Self-Esteem Instability](#)

Self-Esteem Variability

- ▶ [Self-Esteem Instability](#)

Self-Evaluation

- ▶ [Self-Appraisals](#)
- ▶ [Self-Concept](#)
- ▶ [Self-Esteem](#)
- ▶ [Self-Reflection](#)

Self-Evaluation Maintenance Model

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Definition

The self-evaluation maintenance (SEM) model is a theoretical framework describing the process by which individuals maintain or increase their positive self-evaluation, or self-regard, in interpersonal contexts, through *reflection*, and through *comparison*.

Introduction

The self-evaluation maintenance (SEM) model is a theoretical framework describing the processes by which individuals' self-evaluation, or self-regard, is affected by others' performance in interpersonal contexts. The SEM model predicts that the accomplishments of the people surrounding an individual may affect that individual's self-regard

in two ways: through *reflection* (which boosts self-regard by association with the superior other), and through *comparison* (which decreases self-regard in contrast to the superior other). The relative likelihood of each of these two processes is determined by a combination of three variables: the psychological *closeness* of one's comparison target, the quality of *performance* of the other in relation to the self, and the *relevance* of the performance to one's self-definition. The SEM model also presumes that people seek to maintain or increase their positive self-evaluations, which in turn shapes the comparison processes they engage in.

Closeness

In any interpersonal context, the *closeness* of the other is an important determinant of how their performance affects the self. Closeness refers to the psychological distance between the self and another person. Factors that increase closeness can include proximity in space; matching characteristics such as age, race, or gender; and common group memberships, among other things. An individual does not need to interact with the other person in order to feel closeness with them; for instance, a musician might feel psychologically close to a prominent fellow musician of a similar genre even if they do not know one another personally. Closeness is also not contingent on interpersonal attraction or liking; someone may see a disliked professional rival, who is at the same stage of career advancement as themselves, as closer than a well-liked supervisor, who is in an entirely different vocational phase.

According to the SEM model, a target's performance will have a greater impact on self-evaluation when the other's performance is superior to one's own and when the other is high in psychological closeness. According to Tesser, another person's poor performance does not have the same capacity to impact self-evaluations. Likewise, when the other individual is not psychologically close, their superior performance is less pertinent to the self, and both reflection and comparison processes would be less likely to occur.

Reflecting and Comparing

The SEM model holds that when an individual is aware of a relatively good performance (compared to one's own performance) by a psychologically close other, they can engage in one of two processes: reflection or comparison. *Reflection* is a process whereby individuals bask in the reflected glory of another's positive performance, gaining in positive self-evaluation through another person's accomplishments. For example, an individual may feel proud when a close friend wins an award, and might experience a boost in their own self-regard because of their association with such a talented person.

However, if an individual instead engages in *comparison* to the superior close other, it can result in decreased self-regard. This process occurs when an individual focuses on how their own performance pales in comparison to the superior other's accomplishments, deflating their positive self-evaluation accordingly. For instance, instead of basking in the glory of their friend's award, an individual may feel worse about themselves after contrasting the friend's success to their own less impressive performance.

Relevance

While both reflection and comparison can occur, the processes suggest two opposing effects that would be produced by identical inputs. What determines when one or the other might occur, or the strength of these two opposing processes? The SEM model suggests that these processes are not equally weighted, but that the extent to which someone engages in either process is determined by the *relevance* of the performance in question to an individual's self-definition. When a performance occurs on a dimension that is *highly self-relevant*, individuals are more likely to compare it to their own performance rather than engage in reflection; if a close comparison target's performance is superior, an individual's positive self-evaluation suffers. If the dimension is *lower in self-relevance*, however, individuals have little reason to engage in comparisons, but can instead

engage in reflection, allowing the target's performance to reflect positively on them, boosting their self-evaluation. For instance, a pianist may engage in proud reflection after learning about an acting award won by a friend, yet engage in painful comparison after hearing of a music award won by another friend: the superior music performance is much higher in self-relevance to the pianist.

Shifts in Closeness, Performance, and Relevance

The SEM model assumes that individuals are active participants in the construction of their own self evaluations; they can shift their perception of these variables in ways that maximize (or minimize the loss of) positive self-evaluation. How these parameters can influence self-evaluations were outlined previously; however, when individuals are motivated to maintain positive self-regard, they can react to the comparison information they encounter in a number of ways. Individuals can attempt to change one or more of the parameters (closeness, relevance, performance) to maximize positive self-evaluation. These changes can be behavioral, cognitive, or both. For example, if a comparison target performs better than the self on a self-relevant task, then the self could react to minimize the threat in several ways. They could decrease *closeness* between themselves and the target (e.g., by spending less time around that person, or by thinking of the ways in which they are dissimilar). They could also decrease the *relevance* of the task (e.g., by investing less time and energy in that pursuit, or by mentally demoting it to a lower level of personal priority). Finally, they could increase their own performance on that task relative to the target's performance (e.g., by actively improving their own performance, sabotaging the target's performance, or by misremembering the outcome as more flattering to themselves than it actually was). By psychologically altering these parameters, people can ensure a more favorable self-evaluation resulting from the process of comparison. Additionally, change in one of the three

model parameters may prompt change in either or both of the remaining parameters.

Dynamics of Change

Although many of these SEM processes have been tested in controlled experiments, the theory addresses the proposed dynamics of how these parameters may naturally shift in real-world contexts.

The first contention is that changes follow the "path of least resistance"; that is, individuals will cognitively or behaviorally shift the variables that are the least difficult to change. A concert pianist who has invested a great deal of time and resources into that pursuit is unlikely to capriciously decrease the relevance of that activity (say, by giving up the piano), but may find it relatively easy to cool a burgeoning friendship with an outperforming other. In contrast, an individual who is comparing their amateur piano-playing ability to that of an outperforming spouse would incur heavy costs by decreasing closeness, but may find it acceptable to decrease their investment in piano and take up another musical instrument. In both cases, these individuals would avoid the more difficult strategies and engage in an easier change.

The second dynamic that may underlie SEM shifts in the real world is that individual differences may predispose people to engage in or avoid specific strategies. Individuals with high self-esteem, for example, engage in greater distortion of performance, inflating their own performance in high-relevance tasks, but deflating their performance on low-relevance tasks.

Special Cases

Research has identified some contexts in which individuals act in a manner that differs systematically from the predictions made by the original SEM model.

The first exception is within romantic relationships. Situations in which an individual is outperformed by a long-term romantic partner in a self-relevant domain present a particularly

difficult context in which shifting on SEM parameters (reducing closeness, decreasing relevance, or competitively outperforming one's partner) may protect self-regard, but ultimately damage the relationship. This situation might occur, for example, when two ambitious spouses pursue careers in the same field. However, an additional mechanism appears to be relevant in these contexts: to the extent that individuals see their romantic partner as *included* in their own self-concept, they respond to their partner's superior performance on a self-relevant task as though it was their own success. In this case, patterns of response tend to resemble the reflective, rather than comparative, process, even when the domain is highly self-relevant. Individuals who do not include their romantic partner in their self-concept show the typical pattern of comparison.

The second, conceptually similar, exception occurs in intergroup situations. Individuals who are highly identified with their ingroup react more positively when an ingroup member demonstrates a relatively superior, rather than inferior, performance on a group-relevant task, because that performance enhances the group. However, individuals with low ingroup identification do not benefit from the shared ingroup identity and therefore react more negatively to a similarly high performance by an ingroup member.

Conclusion

In sum, the self-evaluation maintenance (SEM) model demonstrates how individuals play an active role in maintaining positive self-regard by actively managing the parameters of *closeness*, *performance*, and *relevance* when considering the implications of others' accomplishments on self-evaluation.

Cross-References

- ▶ [Self-Enhancement Bias](#)
- ▶ [Social Comparisons \(Upward and Downward\)](#)
- ▶ [Social Identity Theory \(SIT\)](#)
- ▶ [Tesser, Abraham](#)

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Self-Evaluations and Acceptance

- ▶ [Self-Esteem and Belongingness](#)

Self-Focused Attention

- ▶ [Self-Awareness](#)

Self-Glorification

- ▶ [Glory \(Horney\)](#)

Self-Handicapping

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Definition

Self-handicapping is a self-protective strategy in which a person identifies or creates obstacles to performance in order to generate excuses for possible failure; doing so protects the individual's positive self-views by allowing them to discount attributions to lack of ability. Self-handicapping can also be used to augment attributions to ability following success.

Introduction

Self-handicapping is a defensive, often self-defeating strategy that people adopt to protect or even enhance their positive self-images (Rhodewalt & Tragakis, 2012). Self-handicapping occurs when someone identifies or creates obstacles to performance in order to manage attributions for their performance in self-serving ways. For example, a student might stay out late socializing instead of studying the night before an exam (Jones & Berglas, 1978). Self-handicappers are willing to trade the quality of performance for immediate attributional benefits to their self-views. A poor exam performance can thus be attributed to socializing instead of lack of ability. In contrast, a good performance can be augmented by the obstacle (i.e., “I did well despite staying out late”). However, self-handicapping can be detrimental in the long term (Zuckerman & Tsai, 2005). Based on nearly 40 years of research, this review summarizes the motives, antecedents, modes, consequences, gender differences, and potential remedies related to self-handicapping.

Motives for Self-Handicapping

A desire to protect positive self-views has been consistently identified as the primary motive for self-handicapping. People who engage in self-handicapping are able to maintain higher self-esteem following failure than their counterparts who do not self-handicap. This self-protective function can be explained by the ability to discount the implications of poor performance for abilities; self-handicappers attribute failure to a real or imagined obstacle instead of a lack of ability (Rhodewalt & Tragakis, 2012).

Mixed evidence suggests that people may also employ self-handicapping in order to self-enhance. That is, self-handicapping can augment attributions to ability following success. Early research found that only people with high self-esteem augmented attributions to ability following success (see Rhodewalt & Tragakis,

2012). Later research in a classroom setting demonstrated that, regardless of initial levels of self-esteem, students who self-handicapped more (by claiming more obstacles to performance) reported higher state self-esteem after learning about test grades. Self-handicappers who received grades higher than expected (success) enhanced self-esteem through augmentation, whereas self-handicappers who received grades lower than expected (failure) buffered self-esteem via discounting (Feick & Rhodewalt, 1997).

More recent investigations suggest that self-handicapping may directly protect one's perceived ability in a specific, important domain rather than global self-evaluations. Claimed self-handicapping was found to preserve ratings of specific abilities, which in turn had an indirect effect on global self-evaluations (Hirt & McCrea, 2012). The ability of self-handicapping to preserve self-views on specific abilities, over and above global self-esteem, could explain why people self-handicap when other, less undermining strategies might restore self-integrity (e.g., self-affirmation).

An ongoing debate, related to the motivations for self-handicapping, is whether people self-handicap for self-protection or impression management. Some research reveals that people self-handicap to similar extents in private and public settings, even when their performance outcome is anonymous (Rhodewalt & Tragakis, 2012), suggesting that self-handicapping is mainly motivated by the desire to protect self-views. If impression management was a primary motive, one would expect self-handicapping to be more prevalent in public settings. Another research does, in fact, demonstrate that public settings and public self-consciousness heighten self-handicapping; this effect, moreover, may be particularly pronounced for people who are more concerned with how they are evaluated by others (Hirt & McCrea, 2012). More research is thus needed to clarify boundary conditions under which self-protective or impression management concerns motivate self-handicapping.

Antecedents of Self-Handicapping

Individual Differences

People differ in their chronic or habitual tendency to self-handicap. This individual difference is related to a combination of (1) the belief that one's ability is fixed rather than changeable and (2) uncertain self-views concerning one's abilities based on experiences of noncontingent success (i.e., doing well, but being unsure of how one did well). High trait self-handicapping, measured by the Self-Handicapping Scale (Jones & Rhodewalt, 1982), is associated with more observed or reported self-handicapping in evaluative contexts, lower self-esteem, and more negative affect (Rhodewalt & Tragakis, 2012).

Self-handicapping is also related to other individual differences that heighten one's experience of evaluative threat or the uncertainty of one's self-concept. These individual differences include fear of failure, sensitivity to failure and punishment (i.e., the behavioral inhibition system), having an achievement goal related to performance (rather than a mastery goal; Elliot & Church, 2003), and fragile self-esteem (e.g., unstable or contingent high self-esteem that is vulnerable to threat; Lupien et al. 2010).

Situational Elicitation

Broadly speaking, self-handicapping is elicited by the anticipation of possible failure in an evaluative context, calling into question a valued yet uncertain ability. To date, the most consistent situational trigger of self-handicapping has been noncontingent success – in which people receive positive feedback on an initial performance but are uncertain about how they succeeded (Rhodewalt & Tragakis, 2012). In the typical experimental paradigm (introduced by Berglas & Jones, 1978), participants believe the study will examine how different test settings influence performance on a test of an important ability (e.g., intelligence). They are told they will complete two equivalent versions of a test. All participants complete the first test under neutral conditions and are told they did well on the test. To manipulate contingencies of success, half the participants complete a set of

easy questions so they can draw clear link between their ability and success. The other half of participants, however, complete a set of difficult or unsolvable questions, which prevent them drawing a clear link between their ability and success. All participants are then given a choice for the next test; they can complete the test under neutral or performance-enhancing conditions (e.g., with facilitating music) or under performance-interfering conditions (e.g., highly distracting music). Noncontingent success consistently makes participants more likely to self-handicap by choosing performance-interfering conditions for the second test administration. Doing so allows them to protect the self-view that they have high ability against possible failure on the second test.

Recent research has examined other factors that can intensify evaluative concern as situational triggers for self-handicapping. For instance, public self-focus and an induced focus on preventing loss and avoiding failure (i.e., prevention focus) increase self-handicapping (Hirt & McCrea, 2012).

Modes of Self-Handicapping

Research distinguishes claimed self-handicapping from behavioral self-handicapping (Rhodewalt & Tragakis, 2012). Claimed self-handicapping occurs when people identify barriers to performance such as stress, anxiety, or physical symptoms. Behavioral self-handicapping involves actively engaging in activities that can hinder performance, such as withdrawing effort or practice, alcohol consumption, procrastination, or setting unrealistic goals. Behavioral self-handicapping is more likely to cause worse performance than is claimed self-handicapping. It also seems to be more effective in preserving positive self-views (Hirt & McCrea, 2009). Notably, however, claimed self-handicapping that refers to behaviors (e.g., claimed poor preparation for a test) is more closely related to poor performance than claims unrelated to behaviors (e.g., stress; Hirt & McCrea, 2012).

Consequences of Self-Handicapping

As discussed in the section on motives, the short-term beneficial consequences of self-handicapping include buffering self-esteem, protecting specific beliefs about ability, and changing attributions to ability (e.g., discounting failure and augmenting success). This section focuses more on the costs of self-handicapping.

Intrapersonal Costs

Performance. One major detrimental effect of self-handicapping is that it often undermines performance despite its self-protective functions (Rhodewalt & Tragakis, 2012). For example, students who declared weaker intention to devote effort to a math test performed worse on the test than students who did not self-handicap in this way. Similarly, high trait self-handicapping is related to poorer preparation, which is related to poorer achievement in long term.

Well-Being. Trait self-handicapping, despite self-handicapping's immediate benefits, is related to poorer well-being in the long term (Zuckerman & Tsai, 2005). For instance, high trait self-handicappers report lower self-esteem, more negative affect, lower satisfaction of the need to feel competent and capable, less intrinsic motivation (i.e., motivation driven by internal rewards such as gaining experience), and more substance use. Ironically, lower self-esteem in turn predicted higher self-handicapping over a few months, suggesting reciprocal influence between the costs and antecedents of self-handicapping.

Interpersonal Costs

Although self-handicapping may help people convince others that they possess good ability despite failure, self-handicappers can still be viewed harshly by others. Observers perceive self-handicappers to care less about performance and to be less motivated. They were less willing to befriend, study with, or share residence with self-handicappers (Hirt & McCrea, 2012). When the same objective feedback is given, observers view the feedback more negatively for self-handicappers than for people who do not self-handicap (Rhodewalt & Tragakis, 2012). These interpersonal

costs seem to heighten the threat of failure in evaluative situations for self-handicappers.

Gender Differences

Consistent gender differences have been observed in self-handicapping (Hirt & McCrea, 2009). Men and women use claimed self-handicapping equally. However, men employ more behavioral self-handicapping than women. Although no gender differences are observed in well-being (Zuckerman & Tsai, 2005), self-handicapping may be more costly for men because behavioral self-handicapping is detrimental to performance.

As observers, women tend to evaluate self-handicappers more negatively than men do. Compared to men, women are less convinced by self-handicappers' discounting. Instead, women are more likely to recognize self-handicapping and attribute it to personal qualities such as poor self-control. Men are less critical of self-handicappers on evaluative dimensions, more convinced by their discounting, and assume more situational motives (e.g., anxiety) for self-handicapping.

Effort beliefs – the extent to which one values effort as a personal quality and sees oneself as a diligent worker – is so far the most promising explanation for gender differences in self-handicapping. Women hold greater effort beliefs than men, and differences in effort beliefs explained gender differences in the use of behavioral self-handicapping and reactions to self-handicappers.

Prevention

Recent research suggests that cultivating mastery goals can reduce self-handicapping for low self-esteem individuals or those who endorse performance avoidance goals (Schwinger & Stiensmeier, 2011). Other research suggests that affirming personally important values in domains unrelated to the evaluative threat can reduce self-handicapping (Hirt & McCrea, 2012). Exploring interventions to prevent self-handicapping is a promising focus for future research.

Conclusion

Self-handicapping is an ironic defensive strategy due to its appealing short-term benefits but long-term costs. Claiming or creating obstacles to performance can protect positive self-views by allowing people to discount failures or augment successes. These attributional benefits, however, can come at the cost of actually undermining one's own performance.

Cross-References

- ▶ [Attributions](#)
- ▶ [Fragile Self-Esteem](#)
- ▶ [Self-Protective Motives](#)

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Self-Handicapping Strategy

- ▶ [Procrastination](#)

Selfhood

- ▶ [Personality Development in Childhood](#)
- ▶ [Self-Concept](#)

Self-Ideal

- ▶ [Ideal Self](#)

Self-Improvement Goals

- ▶ [Mastery Goals](#)

Self-Inconsistency

- ▶ [Self-Discrepancies](#)

Self-Insight

- ▶ [Self-Knowledge](#)

Self-Kindness

► Self-Compassion

Self-Knowledge

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Synonyms

Self-appraisals; Self-insight; Self-perceptions;
 Self-views

Definition

Self-knowledge refers to the collection of representations *believed* to truly and accurately depict the Self. Like classic knowledge, Self-knowledge is acquired, stored, retrieved, and organized, and it conveys meaning and guidance on how to interact with the environment, in particular with other social beings. Unlike classic knowledge, Self-knowledge is not learnt from any textbooks or media but essentially from introspection and interactions. Importantly, Self-knowledge exists in many forms, such as knowledge of our past, our personality, or our life goals, and its accuracy is often difficult if not impossible to evaluate objectively.

Introduction

The scattered current state of the study of Self-knowledge can be attributed to the fact that various domains of psychology have focused on specific aspects of Self-knowledge, such as its domains of knowledge, the processes contributing to or influencing Self-knowledge (e.g., self-awareness), and the qualities of Self-knowledge

(e.g., accuracy and structure). Self-knowledge can be about any aspect of the Self; this explains why no consensus has as yet been reached about the organization of these aspects into domains and their terminology. Neisser (1988), for instance, distinguishes five kinds of Self-knowledge, pertaining to the ecological, interpersonal, extended, private, and conceptual selves. In practice, however, research on Self-knowledge seems organized according to the following main domains: episodic and semantic autobiographical memories, personality traits, attitudes, social identity, emotions, physical attributes, reputational attributes (e.g., public image, likeability), partner or relationship knowledge, goals and motives, physical and mental health, preferences and values, metacognitive knowledge, and future actions and performance. An emerging pattern across these domains is the separation of Self-knowledge between controlled, explicit, conscious, goal-driven processing of self-relevant information and automatic, implicit, unconscious processes influencing the processing of Self-knowledge. Unconscious processes typically bias the access to and formation of Self-knowledge, they are generally referred to as the **blind spots**. Accuracy is therefore a central measure in Self-knowledge despite the lack of a perfect criterion to ascertain the accuracy of Self-knowledge. A common criterion is **self-other overlap**, which is the extent to which other people's impressions match self-views. These impressions can be provided by a single person but are generally constructed from the average of several people; it is known as the **social consensus criterion**. These people can be strangers (giving their first impressions), acquaintances, or judges (experts trained to judge particular attributes of a person). Other criteria are the **pragmatic criterion**, which assesses the extent to which self-views predict future actual behavior, and the **objective criterion**, which is provided by existing standardized measures, such as academic performance and IQ, and experience-sampling devices. Finally, more domain-specific criteria could be the statistical plausibility of a self-view (e.g., better than average) or the consistency with previously reported self-views (Schriber and Robins 2012).

The present review synthesizes Self-knowledge research into sections addressing how Self-knowledge develops and is stored, organized, examined, influenced, and socialized.

The Developing Self

To build up Self-knowledge, one needs a minimal form of **self-recognition** capacities to recognize and dissociate self- from non-self-information. Infant behaviors indicate they represent their own body as distinct from other entities, over which they can exert control and thus experience a **sense of body ownership**, a **sense of agency**, and, more generally, a **subjective self** (Gergely 2002). By year 2 they explicitly recognize their body and their face as their own. By year 3, they can tell whether an object was remembered in a self-referent context or not, and they show a mnemonic advantage for material referring to self, which is commonly referred to as the **self-reference effect**. From that point, the Self as agent and experiencer becomes implicitly and explicitly encoded as such, and explicit memory of the Self develops (Hart and Matsuba 2012; Ross et al. 2011).

Storing and Organizing the Self

The central storing unit of the Self is **autobiographical memory**, which is an explicit memory system allowing to access **episodic** Self-knowledge by recollecting episodes of our life and the **semantic** Self-knowledge by retrieving facts about ourselves that have been abstracted or inferred from commonalities across episodes (D'Argembeau 2015). Autobiographical memory also indexes self-views resulting from **future thinking**, which refers to imagining oneself in the future, either as a first-person-experienced episode, commonly referred to as **episodic future thinking**, or as an abstract thinking about future personal goals and self-schemas (D'Argembeau 2015). In addition to accessing already acquired Self-knowledge, autobiographical memory allows to form new Self-knowledge by recollecting our

past experiences and inferring what they say about us. Autobiographical memory also provides a sense of continuity of the Self over time and ensures the maintenance of a coherent Self-identity, including established social connections. Critically, memory recollection is often a reconstruction exercise that is easily biased by the selective retrieval of features that are, for instance, most accessible to mind (**accessibility bias**) and most congruent with current mood (**mood congruency bias**), by filling in the voids (especially when recollection is based on semantic memories) or by appropriating non-lived memories as our own (due to failed **source monitoring**). These biased and false memories are eventually stored as if they were authentic memories (Kelley and Jacoby 2012).

Aggregations of episodic and semantic Self-knowledge form distinct **Self-schema**, which are sets of representations thematically organized around key features of our life (e.g., my life goal to win an athletic competition, my insomnia, or my high school years). Different organizations of the Self-schema have been proposed. Cognitive neuroscience distinguishes between the **conceptual Self** containing most abstract representations such as life goals and Self-identities, the general knowledge containing generic information about the Self and the past, and the episodic memory system containing the detailed memories as they were lived (Conway et al. 2019). Another approach, known as **Self-structure** research, is to consider that the Self can be multiple, since we have different identities or roles in different contexts (e.g., as a mother versus as a police agent). Two main measures of the multiplicity of the Self are termed **Self-complexity** or **Self-Concept differentiation**. Self-complexity highlights the richness of the Self and its adaptive functions (e.g., adapt to different contexts), whereas Self-Concept differentiation emphasizes the **fragmentation** or **compartmentalization** of the Self and its maladaptive outcomes (e.g., fragile and incoherent identity). Relatedly, **Self-concept clarity** (or Self-clarity) inspects the extent to which our Self-identity is clearly and confidently defined, coherent, and stable (Pilarska and Sucha 2015; Showers et al. 2015).

Examining the Self

The most important activity by which we reach Self-knowledge is **Introspection**, which refers to the action of examining our inner world (e.g., feelings, goals, memories) in contrast to the external world. Introspection is often further characterized by the following key concepts: **Self-focus** refers to the mental activity of focusing attention on the Self. **Self-awareness** refers either to the capacity for introspection or the state of awareness of one's own thoughts (Silvia and Gendolla 2001). **Self-insight** is generally considered as a synonym to Self-knowledge, but its more technical definition is an extended state of awareness which requires awareness of the (i) content of the experienced mental state (or its association with an object, such as "being mad at my neighbor"), (ii) the cause that triggered the mental state, and (iii) the past or future consequences of the mental state on behavior (Gawronski and Bodenhausen 2012). **Metacognition** refers to the capacity to think about one's own thoughts (as self-awareness) but is often assimilated to the formation of and access to knowledge about one's skills and to the real-time monitoring of performance and learning. These cognitive processes or states may be considered as prerequisites to access and form Self-knowledge via introspection, but they don't necessarily lead to accurate Self-knowledge, which actually depends on the type of introspection/self-awareness achieved (Hixon and Swann 1993). The main distinctions are (i) **private/public** self-awareness, whether the self-information is private (e.g., my secret motives) or public (e.g., how others see me); (ii) **ruminative/reflective** self-awareness, whether the motives are negative feelings or an intellectual curiosity for the self; and (iii) whether the introspection aims to address *why* one experiences a specific mental state versus *what* the mental state is; ruminative and why-driven introspection are less likely to result in accurate Self-knowledge (Hixon and Swann 1993; Morin 2011).

A characteristic feature and function of introspective reasoning and autobiographical memory reconstruction is the **narrative Self**. Narrative psychology distinguishes between two modes of

thinking, the **paradigmatic mode**, which uses logical explanations to build a rational account of reality, and the **narrative mode**, which uses subjectively meaningful interpretations to build a coherent account of our identity. Critically, the narratives serve to bind the past, present, and future episodic events of our lives into a coherent temporal sequence. The narratives are also marked by **causal coherence** (the narratives contain explanations to link different sets of actions), **thematic coherence** (the characteristic features of the identity (e.g., personality trait, life goal) are recurring themes of the narratives), and **cultural coherence** (the narratives tend to espouse cultural templates of how lives unfold). The narrative mode forms Self-knowledge that is accurate only to the extent that the story is believable by an external audience, while the paradigmatic mode forms accurate Self-knowledge to the extent that the explanation is verifiable despite the fact that these explanations may challenge the coherence of the identity (Adler 2012). Individuals may shift from one mode to another, depending on their motives.

Influencing the Self

Our construction of Self-knowledge is guided by four main **motives**. The **Self-enhancement** motive (or **positivity striving**) refers to striving to put the Self in a positive light and away from threats. The **Self-assessment** motive refers to the need to achieve accurate Self-knowledge in order to reduce uncertainty about the Self. The **Self-verification** (or **self-coherence**) motive refers to striving for maintaining self-perceptions coherent with the established Self-identity or self-views held by important others. The **Self-improvement** (or **self-expansion**) motive refers to striving to develop new facets of the Self (Strube 2012). The preponderance of one motive over others varies across contexts (see below) but also depending on individuals' self-esteem, clarity of the self, or personality types (Schriber and Robins 2012).

These motives can lead to various forms of **bias** and **illusion** in our Self-knowledge. Fuelled by the Self-enhancement motive, the most

pervasive bias is the tendency to hold or produce positively biased self-views, which goes along with a series of related illusions. The **“better-than-average” illusion** consists in believing that we are better than the average other on many aspects despite statistical unlikelihood. The **unrealistic optimism illusion** translates into expecting unrealistically positive outcomes, especially if they result from our actions. The **illusion of control** consists in over-confidence that an expected outcome is dependent on our own actions. Relatedly, **magical thinking** translates into thinking we are the cause of an outcome when there is no scientific account of this causation. The **prediction illusion** consists in being overconfident in accurately predicting our future behaviors or mental states. The **illusion of objectivity** (or **naïve realism**) consists in erroneously believing that our decisions and perceptions are objective and thus devoid of biases. The **self-serving attributional bias** refers to the tendency to consider oneself to be the cause of positive outcomes and external and/or uncontrollable factors to be the cause of negative outcomes. The Self-verification motive, on the other hand, is fuelling the **confirmation bias**, which translates into selecting information that confirms our beliefs, including beliefs about our self-identity. In contrast to self-enhancement, **self-depreciation** (or **self-diminishing**) consists in producing negatively biased self-views, including seeing oneself as lower than average or expecting pessimistic future outcomes; self-depreciation characterizes psychological disorders such as depression and anxiety. An underlying illusion partly explaining these biases and illusions is the **introspection illusion**, which refers to overweighting self-information originating from introspection (in opposition to external sources) when forming Self-knowledge. Additional biases in Self-knowledge may also originate from other known unconscious tendencies or attitudes, such as social conformity, prejudices, and egocentrism (Hansen and Pronin 2012; Leary and Toner 2012; Schultheiss and Strasser 2012). Finally, the most drastic case of inaccuracy in Self-knowledge is **self-deception**, which refers to inaccurate beliefs that are so deeply motivated that they resist awareness of contradictory evidence (Paulhus and Buckels 2012).

Generally speaking, the probability for Self-knowledge to be biased depends on which motive best fits the context and the verifiability of Self-knowledge. The benefits of expressing positively biased Self-knowledge, for instance, such as building a positive public self-image, often outweigh the associated risks, such as social rejection (due to overestimation of social status). However, contexts in which accuracy is valued and external standards are available will prompt Self-assessment. Verifiability depends on whether the content of Self-knowledge has low **observability** (or external visibility) or no clear standards (e.g., being creative); low verifiability Self-knowledge tend to be biased (Strube 2012). Congruently, self-observation of behavior is consistently found to be less biased than other ways to form Self-knowledge. However, uncertainty (or **mutability**) about a trait (e.g., generous) has been shown to foster associated behaviors (e.g., give to a charity) that signals to the Self a positive self-view about this trait; a phenomenon known as **self-signalling** (Bodner and Prelec 2003). Finally, ignorance and misinformation are obvious contributors to inaccurate Self-knowledge.

The Socializing Self

The second main source of information to form Self-knowledge is other people, by comparing to them, by reflecting on the impressions of us they express, or by inferring their impressions of us. **Social comparison** is a pervasive mental activity leading to Self-knowledge through either assimilation (“I am like my best friend”) or contrast (“I am smarter than my neighbor”). Accuracy can be compromised by self-enhancement motives as we tend to intentionally perform assimilative comparisons against similar people and contrastive upward or downward comparisons with superior or inferior others, respectively (Suls et al. 2002). **Reflected appraisals** are the appraisals of the Self expressed by others, which have been converted into self-appraisal to form Self-knowledge. Before being converted into Self-knowledge, the appraisals that others have of us are also referred to as **metaperceptions**,

and accuracy about how accurately we guess how people in general or a specific person sees us is termed **generalized** or **dyadic** (or differential) **meta-accuracy**, respectively. Although highly correlated with Self-knowledge, metaperceptions are not believed to be true depictions of the Self but simply external subjective views of the Self; knowledge of this distinction is called **meta-insight**. Metaperceptions have their own biases such as the tendency to assume that other people see us as we see them, known as **assumed reciprocity**, and that they share our mental attributes (e.g., personality traits), known as **assumed similarity**. The knowledge typically inferred in these social contexts pertains to the **social** (or **interpersonal**) **Self**, which, namely, includes knowledge of our social identities (e.g., group membership), family ties, social skills, and particularly reputational attributes (likeability, attractiveness, social status) (Srivastava 2012). Other people's perceptions are generally more accurate than individuals' perceptions of themselves for attributes with a high motivational relevance because motives are likely to bias self-perceptions. Other people are however less accurate for low observability attributes (Vazire 2010).

Reliance on other people as a source of Self-knowledge varies across individuals and contexts. For instance, younger people are more likely to assimilate others' inputs than adults because their self-concept is not yet well-established. Self-enhancement and self-verification motives might lead individuals to disregard, respectively, negative appraisals from others (via self-serving attribution bias) and appraisals conflicting established self-views (via the objectivity illusion). In addition, individuals are more likely to weight the opinions of people they wish to affiliate with, according to the **social tuning hypothesis** (Srivastava 2012).

Conclusion

Self-knowledge covers any type of information relevant to the Self, from knowledge of physical appearances to knowledge of the limited Self-knowledge we possess. We all seek Self-knowledge, not necessarily for its accuracy but

also for giving a meaningful narrative to our past, present, and future actions, a sense of continuity over time, a sense of being both unique and similar to others, a sense of being tied to other people, and a sense of having one coherent and stable identity. Is accuracy necessary to well-being? The answer is a matter of debate. Overestimating your capabilities leads to systematic failures, frustrations, and risky choices, but it also prompts confidence and motivation. Self-enhancing illusions seem helpful to cope with stressful, challenging, and traumatic events but not to bond lasting relationships. Maladjustment and psychopathology are associated with inaccurate Self-knowledge, but one can ponder whether mental health is simply a prerequisite to accept accurate self-views. Most importantly, believing to be more intelligent, important, and rightful than others is the starting point, not for compromise but for acts of violence such as world wars, genocides, and terrorism (Leary and Toner 2012). Unfortunately, on the path to accurate Self-knowledge, we all walk blind to the very illusions that bias our knowledge of ourselves.

Cross-References

- ▶ [Agency](#)
- ▶ [Insight](#)
- ▶ [Metacognition](#)
- ▶ [Self-Appraisals](#)
- ▶ [Self-Awareness](#)
- ▶ [Self-Complexity](#)
- ▶ [Self-Concept](#)
- ▶ [Self-Concept Clarity](#)
- ▶ [Self-Concept Content](#)
- ▶ [Self-Enhancement Bias](#)
- ▶ [Self-Enhancement Motives](#)
- ▶ [Self-Realization \(Horney\)](#)
- ▶ [Self-Reflection](#)
- ▶ [Self-Schema](#)

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Self-Love

► Self-Compassion

Self-Monitoring

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Definition

Individual difference construct that captures an individual's ability to observe and control one's own behavior, based on situational cues and social appropriateness.

Introduction

Self-monitoring is a personality trait or individual difference that reflects the fact that people meaningfully differ in whether (or how) they regulate their behavior in different social situations (Snyder 1974). “Behavior” in this sense reflects both the language one uses in a social setting, as well as the nonverbal communication (e.g., facial expressions, body language) employed, based on an individual’s appraisal of which actions are appropriate for a given context. Self-monitoring is viewed as existing on a continuum, such that individuals range from “low” to “high” in their tendency to alter their behavior based on social cues from one context to the next. On one end, high self-monitors (HSMs) are exceptionally attuned to social situations and can be chameleon-like in their actions and behaviors from one context to another. Conversely, low self-monitors (LSMs) “are not controlled by deliberate attempts to appear situationally appropriate; instead, their expressive behavior fundamentally reflects their own inner attitudes, emotions, and dispositions” (Gangestad and Snyder 2000: 531). According to Day and Schleicher (2006) and predicated on socioanalytic theory (Hogan 1983, 1991; Hogan et al. 1985), HSMs are focused on two of three broad motive patterns: getting along (e.g., acceptance and approval) and getting ahead (e.g., status, power, and the control of resources) – predictability and order, the third motive pattern within socioanalytic theory, is not a consideration within the purview of self-monitoring.

Literature Review

Self-monitoring, as a personality construct, has been predominantly measured with self-report scales. Measurement of self-monitoring has been the subject of considerable debate since the first item battery was proposed by Snyder (1974). Based on an initial set of validity concerns proposed by several authors (e.g., Briggs and Cheek 1986, 1988; Briggs et al. 1980; Lennox and Wolfe 1984), the original 25-item scale was amended by

Snyder and Gangestad (1986) to an 18-item scale which was purported to have greater psychometric properties. Indeed, the Snyder and Gangestad (1986) scale is currently the standard measure of self-monitoring, although a contingent of scholars remain skeptical of its validity (e.g., Parks-Leduc et al. 2014; Warech et al. 1998). Whether self-monitoring should be considered as a single higher-order factor (e.g., Gangestad and Snyder 1986) or a multidimensional construct (Warech et al. 1998) that combines elements of motivation and skill (Parks-Leduc et al. 2014) remains an open question in the literature.

Nevertheless, a significant volume of research has been compiled over the past 30 years regarding how self-monitoring influences individuals in the workplace. In terms of direct effects, the most recent comprehensive meta-analysis on the subject (Day et al. 2002) found that self-monitoring has moderate positive relationships with leadership ($r = 0.21$) (all correlations provided in this section are from the Day et al. (2002) meta-analysis and were corrected for measurement error) and job involvement ($r = 0.22$), as well as a weak positive relationship with overall job performance ($r = 0.10$). These findings lend support to the general notion that HSMs are highly focused on “getting along and getting ahead” (Day and Schleicher 2006). Self-monitoring also has modest relationships with some demographic variables, including age ($r = -0.08$) and gender ($r = 0.13$, indicating that males are more likely to be higher in self-monitoring; Day et al. 2002).

However, self-monitoring also has a “dark side,” in that HSMs have been linked to several negative work outcomes. Self-monitoring has a moderately positive relationship with job ambiguity ($r = 0.24$) and weaker relationships with organizational commitment ($r = -0.13$) and role conflict ($r = 0.17$; Day et al. 2002). These findings suggest that HSMs may be more likely to lack clarity in their job roles relative to LSMs and that the “getting ahead” motive among HSMs can lead to decreased support and affiliation with employers. Indeed, Caligiuri and Day (2000) found that self-monitoring was negatively related to contextual performance (operationalized via non-self-report items that measure employee

motivation, commitment, and strength of working relationships) among expatriates (i.e., employees working in a different country than their place of origin), perhaps because the contextual ambiguity that is inherent in an expatriate assignment creates difficulty for HSMs to effectively adapt their behavior (Bedeian and Day 2004). Along these same lines, Allen et al. (2005) found that self-monitoring is positively related to turnover. Interestingly, the authors also found that high levels of self-monitoring attenuate the relationship between turnover intentions and actual turnover.

Another “dark side” aspect of self-monitoring relates to trustworthiness. Ogunfowora et al. (2013) found that self-monitoring is negatively related to trait honesty-humility (Ashton and Lee 2005), which suggests that HSMs are more likely to be dishonest and driven by a motive for personal gain. In their study, the authors also found that HSMs were more likely than their LSM counterparts to engage in moral disengagement and unethical decision making. In fact, additional studies have found that HSMs are less likely to achieve consistency in 360-feedback (i.e., multi-rater/source feedback) ratings (Miller and Cardy 2000), and that while HSMs may enjoy larger social networks than LSMs, they also experience significantly higher levels of close friendship tie dissolutions over time (Bhardwaj et al. *in press*). In total, these findings suggest that HSMs can be perceived as disingenuous by others, particularly as the time in a relationship increases.

Self-monitoring has also been examined as a potential moderator variable across a number of different studies. In regard to social network development, Kleinbaum et al. (2015) found that self-monitoring interacts with trait empathy, such that HSMs that are also perceived as highly empathic have stronger social networks than low empathy/HSM individuals. Additionally, Barrick et al. (2005) compared the relationship between performance ratings and Big Five personality traits between HSMs and LSMs and found that the positive effects of multiple Big Five traits on performance were attenuated by high self-monitoring. Specifically, the benefits of the Big Five traits of extraversion and emotional stability were less pronounced for HSMs. From a

counterproductive work (CWB) perspective, Oh et al. (2014) also found moderation effects for self-monitoring related to the Big Five: high levels of self-monitoring suppressed the effects of low agreeableness on the enactment of individually-focused CWB, while the combination of high self-monitoring and low conscientiousness resulted in higher levels of organizationally focused CWB.

Finally, Turnley and Bolino (2001) investigated the interaction between self-monitoring and impression management tactics, including ingratiation (the use of flattery or favors to seem likeable), self-promotion (the “playing up” of abilities to seem competent), and exemplification (exceeding expectations to appear dedicated). Using a sample of student work groups, the authors found that HSMs achieve more favorable image outcomes than LSMs when using these impression management tactics, thus demonstrating the ability of HSMs to effectively manipulate others to achieve personal goals. In turn, Parks-Leduc et al. (2014) extended the aforementioned multidimensional view of self-monitoring by Warech et al. (1998) with their findings that self-monitoring *skill* is positively related to extraversion, while self-monitoring *motivation* is positively related to “power” values (e.g., authority, wealth, social recognition, prestige). In total, these (and other) studies suggest that self-monitoring as a theoretical construct encompasses multiple perspectives.

Conclusion

To conclude, there are multiple avenues of exploration that remain available to researchers to study self-monitoring. First, debate over the theory and measurement of self-monitoring continues to rage. In their second rebuttal to critics, Gangestad and Snyder (2000) agreed that their revised scale presents a multifactorial structure, interpreted by others as three factors: acting, extraversion, and other-directedness. Yet, the authors also argue that the preponderance of research supports the validity of an overarching latent variable (e.g., self-monitoring) above the three factors. Nevertheless,

whether self-monitoring should be viewed and measured as a single entity or a multidimensional construct remains unresolved. Second, it is also worth noting that, although considerable research on self-monitoring has been compiled since the Day et al. (2002) meta-analysis, no comprehensive meta-analytic update has since been compiled, thus providing another prospect for interested researchers. In summary, it is clear that there are still considerable opportunities for continued research into self-monitoring in the future.

Cross-References

- ▶ Behavior Modification
- ▶ Impression Management
- ▶ Machiavellianism
- ▶ Self-Regulation
- ▶ Socioanalytic Perspective
- ▶ Theory of Planned Behavior
- ▶ Trait-Situation Interaction

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Self-Monitoring Scale

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Synonyms

SMS

Definition

Self-monitoring is a personality variable defined as the extent to which individuals are willing and able to engage in the expressive control of their public self-presentations, which is measured using the Self-Monitoring Scale (SMS; Snyder 1974; Snyder and Gangestad 1986). Recent work indicates that self-monitoring is better described as comprising two distinct forms of self-presentation, *acquisitive* and *protective*. Accordingly, researchers have repurposed the SMS to assess these two self-monitoring dimensions (Wilmot et al. 2015).

Introduction

Self-monitoring (Snyder 1974) is a major construct of interest in the personality and social psychological literature. Traditionally, self-monitoring has been assessed using total SMS

scores, which are interpreted as tapping a single, unitary variable that is categorically distributed (i.e., high vs. low self-monitors; Snyder and Gangestad 1986). At the turn of the century, quantitative reviews appeared to provide evidence for the construct validity of this *univariate model* of self-monitoring (Day et al. 2002; Gangestad and Snyder 2000), which served to stimulate interest in, and broader use of, the SMS.

Empirical success notwithstanding, emerging evidence challenges key assumptions and measurement practices of the conventional model. First, factor analyses of the SMS indicate that the scale is multidimensional in both its original 25-item (Briggs et al. 1980) and revised 18-item versions (SMS-R; Briggs and Cheek 1988; Snyder and Gangestad 1986). Further, evidence from taxometric analysis shows that the SMS does not, in fact, assess *one* typological variable but rather captures variance from *two* independent dimensional variables: acquisitive and protective self-monitoring (Wilmot 2015). Finally, finding that acquisitive and protective self-monitoring have divergent networks of relations to external variables (Briggs and Cheek 1988; Wilmot et al. 2016) has prompted the call to conceptualize and assess these dimensions separately in a *bivariate model* (Wilmot et al. 2015). However, little was known about the comparative validity of these two self-monitoring models until recently.

Psychometric Properties

Wilmot et al. (under review) used meta-analysis to appraise the respective evidence for the univariate and bivariate models of self-monitoring. As part of this investigation, authors examined the internal consistency reliability of the SMS, the SMS-R, and SMS-based factorial subscale measures of acquisitive and protective self-monitoring (Briggs and Cheek 1988, p. 664); results are reproduced in Table 1. As Table 1 shows, the reliability of the 25-item SMS is quite modest ($\alpha = .70$), and the reliability of the 18-item revision is slightly higher ($\alpha = .72$). Relatively low reliability coefficients reflect the multidimensionality of the SMS, that is, total SMS scores are blends of scores from the two

Self-Monitoring Scale, Table 1 Frequency-weighted artifact distributions of reliability coefficients

Scale	Author(s)	Items	k	\bar{r}_{xx}	SD_r
Univariate model					
Self-Monitoring Scale	Snyder (1974)	25	103	.70	.07
Self-Monitoring Scale-Revised	Snyder and Gangestad (1986)	18	130	.72	.07
Bivariate model^a					
Acquisitive self-monitoring subscale	Briggs and Cheek (1988)	8	55	.72	.05
Protective self-monitoring subscale		11	89	.67	.14

Note. k total number of independent samples, \bar{r}_{xx} mean internal consistency coefficient, SD_r standard deviation of internal consistency coefficients (Table reproduced with permission from Wilmot et al. (under review))

distinct dimensions of acquisitive ($\alpha = .72$) and protective self-monitoring ($\alpha = .67$). Thus, psychometric evidence favors the bivariate model.

Relations to External Variables

Prior reviews concluded that self-monitoring is a unique, distinct psychological construct that predicts theoretically relevant behavior (e.g., expressive control; Gangestad and Snyder 2000) and work-related variables (e.g., leadership; Day et al. 2002). Wilmot et al. (under review) retested these claims by conducting an updated and expanded meta-analysis of univariate and bivariate models and their respective relations to other psychological constructs (e.g., Big Five personality traits) and to work-related variables – especially those linked to motivations for, and ability to attain, status (e.g., leadership role occupancy; Gangestad and Snyder 2000, p. 548).

Concerning relations to other psychological constructs, results disconfirmed prior review claims. Meta-analytic findings indicated that self-monitoring only appears to be an independent construct because the practice of using total SMS scores obscures the divergent relations of its two underlying factors. However, upon their separation, results indicated that acquisitive self-monitoring related positively to agentic variables (i.e., Extraversion and Openness/Intellect), whereas protective self-monitoring related negatively to communal variables (e.g., Emotional Stability, Agreeableness, Conscientiousness; Wilmot et al., under review). Evidence of divergent networks across factors provided meta-analytic confirmation of a related finding that acquisitive and protective self-monitoring are

largely integral to the consensual taxonomy of personality traits, but are located *above* the Big Five, at the metatrait level (Wilmot et al. 2016). Indeed, studies provided convergent evidence that acquisitive self-monitoring and metatrait Plasticity, the higher-order personality trait composed of the shared variance of Extraversion and Openness/Intellect, are virtually *equivalent* constructs (p. 342).

Concerning work-related criteria, meta-analytic results again contrasted with prior review claims (Wilmot et al., under review). Although the SMS related positively to criteria reflecting concerns for, and ability to obtain, social status (e.g., interpersonal task performance, leadership emergence, job offers/promotions), upon separation into its bivariate model measures, the source of this underlying prediction was revealed. Across all variables examined, ostensible SMS effects were found to fully attributable to acquisitive self-monitoring; by comparison, protective self-monitoring had nil, even negative, relations to the variables examined. What is more, with the theoretically irrelevant variance of the protective dimension removed, criterion relations of acquisitive self-monitoring scores were appreciably stronger than scores of the SMS.

Taken together, cumulative meta-analytic findings provided consistent, convergent evidence against the univariate model of self-monitoring and support for the bivariate model. Authors concluded that 45 years of self-monitoring research has led to a somewhat ironic and unexpected conclusion. That is, the self-monitoring literature is *not* about self-monitoring after all. Rather, the construct at its heart is acquisitive self-monitoring, a construct that is synonymous with metatrait Plasticity (Wilmot et al., under review).

Recommendations for Assessment

Based on the meta-analytic evidence, data-analytic procedures and assessment practices associated with the conventional self-monitoring model merit serious reconsideration. First, although the familiar typology of high versus low self-monitors may have some heuristic value, any continued treatment of these classes as an ontological reality is empirically indefensible (Wilmot 2015). Second, sampling methods (i.e., range enhancement using extreme SMS scores) and data manipulation (i.e., artificially dichotomization) that reflect categorical assumptions should be replaced by dimensional approaches and corresponding statistical procedures. Finally, seeing as total SMS scores conflate variance from the two independent dimensions of acquisitive and protective self-monitoring, each of which have demonstrably divergent empirical relations to external variables, there appears to be no logical reason to continue using total SMS scores.

Instead, researchers are urged to use bivariate model measures. In particular, Wilmot et al. (2015) used item response theory (IRT) to develop measures of acquisitive and protective self-monitoring from the original SMS. A representative acquisitive self-monitoring item is, "I would probably make a good actor," while an item representative of protective self-monitoring is, "I'm not always the person I appear to be." Results indicate that the new acquisitive (six-item) and protective (seven-item) self-monitoring scales are reliable, unbiased in terms of gender and age, and show theoretically consistent relations to measures of personality traits and cognitive ability. Additionally, authors report IRT parameter estimates for both dichotomous (i.e., true-false) and polytomous (i.e., 5-point Likert-type) response formats (Wilmot et al. 2015).

Although the acquisitive and protective self-monitoring scales hold promise for future research, they have particular value for reanalyzing archival data. By virtue of using the SMS as the original item pool for the new measures, previously collected responses can be reanalyzed according to the bivariate model; for

recommendations for reanalysis and online data scoring, see Wilmot et al. (2015). Finally, it bears reiterating that acquisitive self-monitoring and Plasticity are the same construct (Wilmot et al. 2016). As such, the new acquisitive self-monitoring scale is presently the first and only validated direct-measure of Plasticity in the published literature.

Conclusion

The construct of self-monitoring and its associated measure, the Self-Monitoring Scale, have a rich, if controversial, history of research. Although recent meta-analytic evidence now indicates that the conventional model of self-monitoring (i.e., self-monitoring as a univariate, typological variable that is best assessed by total SMS scores) should be abandoned, this by no means marks the end of self-monitoring research. Much to the contrary: The bivariate model, a model that repurposes the SMS to assess the two independent dimensions of acquisitive and protective self-monitoring, represents the next generation of self-monitoring scholarship. This bivariate model, and its IRT-based scales built from the original SMS, will help to propel new and deeper investigations into the antecedents and consequences of individual differences in self-presentational behavior.

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Self-Overridealization

- [Glory \(Horney\)](#)

Self-Perceptions

- [Self-Knowledge](#)

Self-Protective Motives

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Definition

The motivation to defend oneself against negative self-views

Introduction

The self-protection motive is the motivation to defend oneself against negative self-views (for a review, see Alicke and Sedikides 2009). It is a form of self-evaluation motive that is related to avoidance motivation (i.e., the desire to avoid undesirable outcomes; see entry on ► [“Avoidance Motivation”](#); Elliot and Mapes 2005). The self-protection motive is aimed at avoiding negativity in one’s self-views, as opposed to the self-enhancement motive, which aims at promoting positivity in one’s self-views (see entry on the ► [“Self-Enhancement Motives”](#)). People often engage in self-protective mechanisms to avoid falling below their subjective standards in a host of domains (e.g., moral conduct, academic standing, athletic ability). The self-protection motive is believed to be driven by the overarching desire to protect and maintain self-esteem and is activated when an event threatens one’s positive self-views. Threats to positive self-views cause numerous judgmental biases and self-protective psychological responses.

When people encounter undesirable or potentially damaging information about themselves (e.g., they are criticized or perform poorly on an exam) or when they experience a social rejection, they may feel threatened. As a result, self-protection strategies may be employed to minimize the negative self-views that could be caused by threatening information (Arkin 1981). Often people respond defensively to perceived threats to their self-views. Defensiveness occurs when people deflect negative or undesirable feedback. They may do so by attributing negative feedback to external sources or discounting the validity of negative feedback. Eventually they may misremember or selectively forget negative feedback. Other self-protection strategies include making excuses to deflect the negative implications of negative outcomes, minimizing shortcomings or vices, retreating from threatening situations, misremembering unfavorable information about oneself, and avoiding situations in which one might fail. Thus, people often reject negative information about themselves which may constitute

defensive denial (as opposed to psychological acceptance). As Alicke and Sedikides (2009) note, self-protection is much like damage control. That is, the self-protection motive is particularly sensitive to threat and is primarily activated when events threaten one's self-image. People's self-protective responses are enacted to avoid a loss of self-esteem.

The self-protection motive may even be elicited when people's dominant worldviews (i.e., their dominant belief systems or characteristic ways of understanding the world) are threatened; people may work to maintain the integrity of the self-system in response to such threats (e.g., Pyszczynski et al. 2004). According to terror management theory, all people grapple with the recognition of their own ultimate mortality. High self-esteem may signal to people that they are living up to the standards of their dominant worldviews (i.e., the standards that define what it means to be a "good" person), which may confer a sense of real or symbolic immortality on the individual. Threats to people's dominant worldviews, or reminders of their mortality, may thus threaten people's self-esteem, and in response, people may engage in a variety of self-protective strategies that can restore self-esteem or reassert the validity of one's worldviews. In this way, the self-protective motive may even buffer existential concerns.

In this entry, we first describe three specific self-protective strategies that people engage in: selective memory, self-serving biases, and self-handicapping. Then we focus on personality traits and attributes that relate to the self-protective motive. Finally, we consider whether the self-protection motive causes desirable or undesirable outcomes.

Self-Protective Strategies

People may engage in a variety of self-protective strategies to maintain their self-esteem in the face of threatening information. A complete review of all of the self-protective strategies that have been studied is beyond the scope of this encyclopedia entry, but we consider three prominent strategies.

Selective Memory

Memory is a particularly important domain for the self-protective motive (Sedikides 2012; Skowronski 2011). People avoid attending to, encoding, and remembering unfavorable information about themselves, causing them to exhibit selective memory for self-relevant information. There are numerous ways people selectively attend to information about themselves. For example, mnemonic neglect is the tendency for people to selectively remember positive information after receiving feedback that is actually mixed, containing both positive and negative information about oneself (e.g., Sedikides and Green 2009). The mnemonic neglect model suggests that people process and encode positive self-relevant information more extensively than negative self-relevant feedback. It is important to note that this effect is moderated by the self-relevance of the traits and the modifiability of the traits implicated by the feedback. Researchers have found that people misremember negative feedback more when it is pertinent to traits (e.g., trustworthy, modest) that are described as unmodifiable or stable, as compared to traits that are described as more malleable or modifiable (Green et al. 2005). This is likely due to negative feedback about stable traits being perceived as more threatening to the self, compared to feedback about more malleable traits, which can presumably be improved over time.

Similar to mnemonic neglect, the fading affect bias refers to the fact that the negative affect associated with an autobiographical memory fades faster than the positive affect associated with the same memory (Ritchie et al. 2006). In addition, when people receive evaluatively ambiguous information about themselves, they filter it in such a way that they remember it as flattering (Taylor and Crocker 1981).

Self-Serving Bias

The self-serving bias refers to the tendency to deny responsibility for negative outcomes (which is a form of self-protection) and to take credit for positive outcomes (a form of self-enhancement; see entry on the ► ["Self-Enhancement Motives"](#)). Upon receiving a failing grade, for example, a student may note that the multiple choice questions

were poorly worded or that the instructor did a poor job teaching the material. In contrast, if the student did well on the exam, she might view the multiple choice questions as clearly worded and the instructor as considerably more competent. In this way, the attributions people make for their outcomes are typically self-serving: They blame personal failures on external causes (e.g., task difficulty, bad luck, other people,) rather than internal causes (e.g., ability, preparation). Through this attributional bias, people may construe negative self-relevant information as inaccurate, as unimportant, as invalid, or as coming from an incompetent source in order to protect their self-image.

Self-Handicapping

The self-protection motive may also cause self-handicapping (see entry on ► [“Self-Handicapping”](#)). Self-handicapping is a frequently self-defeating strategy, whereby people preemptively imagine or create barriers to their own success. By doing so, they buffer themselves from the negative implications of potential failure, because the failure can be blamed on the barrier itself and not attributed to a lack of ability. For example, a student may choose to socialize instead of studying the night before a final exam, or an athlete may decide to skip basketball practice the week before a big playoff game. These self-handicapping behaviors protect the individuals' self-esteem in the event that they fail because they provide excuses for the negative outcomes. Interestingly, self-handicapping behaviors can also provide a boost to self-esteem in the event that people succeed (e.g., perform well on their final exam or in the playoffs) because they can claim to have succeeded despite the barriers they created, accentuating the perception that they have strong abilities.

There are numerous other self-protective strategies people employ. People engage in social comparisons that can help to minimize the negative implications of failure, for example. Learning that others have failed the same task as you can be comforting and reduce the negative implications of failure for oneself. Research has found that people tend to perceive rates of failure as greater for tasks that they have failed themselves (Agostinelli

et al. 1992). All of these responses are posited to be caused by the self-protective motive becoming activated in response to threat. The motivational goal of all of these responses may be to avoid loss of self-esteem; this may be accomplished by not encoding negative self-relevant information in the first place, attributing failure to external causes, or selectively acting in ways that can mitigate the implications of a negative outcome.

Individual Differences that Affect the Self-Protection Motive

Although the self-protective motive is believed to be relatively fundamental, different individuals may exhibit it to differing degrees. For some people, the self-protective motive may be stronger, and they may be more sensitive to rejection or threat. They may thus be more likely to respond to threats with self-protective reactions.

Self-Esteem

An important individual difference for self-protection is self-esteem. Individuals with low self-esteem tend to prioritize self-protection compared to their high self-esteem counterparts, who focus more on self-enhancement (Tice 1991; Wolfe et al. 1986). This is because individuals with low self-esteem strive to protect and maintain the little self-esteem they do have. Low self-esteem individuals are concerned with protecting their public image and tend to be more focused on avoiding failure, whereas high self-esteem individuals are more concerned with enhancing their public image and appearing superior to others (Baumeister et al. 1989). For example, low self-esteem individuals self-handicap to protect themselves from failure to a greater extent than do high self-esteem individuals (Tice 1991). Even in close relationships, low self-esteem individuals prioritize self-protection goals which direct them away from potential rejection or situations where they may have to trust their romantic partner (Murray et al. 2008).

Additional Individual Differences

Additional personality traits, particularly those linked to rejection sensitivity, are also related to

self-protection strategies. People who are highly neurotic (i.e., prone to experiencing negative affect) are highly sensitive to threats and display more self-protective reactions (Schneider 2004). Neuroticism is closely associated with low self-esteem, and thus, it may be unsurprising that individuals who are high in neuroticism display stronger self-protective motives (Judge et al. 2002). Perfectionism is also associated with stronger self-protective motives as maladaptive perfectionism is defined as the desire to achieve exceedingly high, sometimes unattainable, goals (e.g., Dickinson and Ashby 2005). Research demonstrates that perfectionists see failure when, objectively, none exists and they display many self-protective responses.

Costs and Benefits of Self-Protection

Given that the self-protection motive may prevent loss of self-esteem, researchers have been interested in the ways in which self-protection is adaptive or maladaptive. As might be expected, there are some psychological costs associated with self-protection (e.g., Sedikides 1999; Sedikides and Luke 2007). Self-protection, for example, predicts depression, anxiety, and neuroticism, although it is unclear whether these are causes or consequences of self-protection. In addition, self-protection may make people less likely to learn from their mistakes and improve in the future. In addition, engaging in self-protective behaviors in one's romantic relationships can lead relationship partners to feel unsatisfied and undermine relationships. For example, after experiencing a relationship threat or a conflict with one's romantic partner, people's self-protective responses may lead them to distance themselves from their partner or label the relationship as unimportant or less valuable (e.g., Marigold et al. 2007; Murray et al. 2003). These reactions are destructive within the relationship and often erode relationship satisfaction.

Conclusion

The self-protection motive is associated with broader overarching avoidance motivations.

People engage in a variety of self-protective responses to avoid viewing themselves negatively. The self-protection motive operates largely situationally in response to threats to one's positive self-views. When people are unsuccessful or feel interpersonally rejected or excluded, they may be motivated to protect their self-views from the negative implications of these outcomes. They do so through a variety of self-protective reactions which range from misremembering negative information to attributing negative outcomes to external causes and distancing themselves from negative events. Such tendencies may be more typical of individuals who are particularly sensitive to self-threats and negative outcomes, such as individuals with low self-esteem and those who are highly neurotic.

Cross-References

- ▶ [Avoidance Motivation](#)
- ▶ [Self-Enhancement Motives](#)
- ▶ [Self-Handicapping](#)

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Self-Realization (Horney)

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Synonyms

Authentic self; Creative ability; Real self; Self-actualizing self; Self-knowledge

Definition

According to Karen Horney, the real self is not a fixed entity but a set of “intrinsic potentialities” (Horney 1950, p. 17). These potentialities include various capacities, talents, interests, and perhaps what we would today describe as hard-wiring neurological components, such as temperament or genetic predispositions that influence one’s capacities around self-realization. Horney describes the real self as “the alive, unique, personal center of ourselves,” (1950, p. 155) the actualization of which comprises the meaning of life, and the inhibition or alienation from which

can be associated with a form of “psychic death” (1945, p. 185). Factors that inhibit the development of self-realization are childhood conditions where the parental figures do not convey an atmosphere of warmth where a child is allowed to have and express his or her own feelings and thoughts, nor are the child’s needs gratified in a consistently nurturing and safe environment.

Introduction

Horney’s goal of self-realization in psychoanalysis and psychodynamic therapy advanced our idea of what changes are in reach in depth treatment. Previously the classical model aimed to reduce the power of the “superego” in its neurotic demands on the “ego” such that damaging inner dictates could be resolved. But as a nineteenth-century thinker, Freud thought that superego was ultimately necessary to prevent boundless human excesses. Looked at this way human nature needs to curb its instinctual ways *or* risk destroying itself and civilization. Horney had a different and much more optimistic view, seeing the real self as “the source of values that are in the best interest of human development, regardless of culture” (Paris 1999, p. 158). She also felt that the essential part of human nature, or the real self that is common to us all, cannot be reduced by Freud’s instinct theory or by “social valuations and conditioning” (Horney 1939, p. 186).

With the historical evolution in psychoanalytic thinking, self-realization became an intrinsic and inescapable part of Horney’s integrated theory of neurosis. As with every other part of Horney’s theoretical understanding, self-realization is syntonically and systemically connected to the larger whole of character formation. Each part of the whole illuminates not only itself but every other part of the whole and the larger emerging whole itself.

Self-Realization and Analysis

The realizing-self and the real self are alternate expressions for our intrinsic healing capacity

(Horney 1950) that is present from birth. Often hidden or submerged in the early period of treatment, the intrinsic forces gradually begin to be mobilized. But the analyst needs to be alert and attuned to such beginnings because the patient is not at all sure he has a right to feel and think in a way that allows for full, authentic expression. Fearful of “repercussions,” the patient may experience “a renewed onrush of self-hate and self-contempt” (p. 357) which in turn can convince the patient at that moment that health is too dangerous, just as it was in his earlier difficult years. It is at these times that the analytic therapist needs to be a source of validation and close support. Horney (1950) describes these crucial times in moving terms:

“When in the grip of a repercussion the patient naturally does not know what is going on. He feels simply that he is getting worse. He may feel desperate. Perhaps his improvements were illusory? Perhaps he is too far-gone to be helped? He may have fleeting impulses to quit analysis . . . thoughts which he may never have had before, even in upsetting times. He feels bewildered, disappointed, discouraged. Actually these are in all instances constructive signs between self-idealization and self-realization. And perhaps nothing else shows so clearly that these two drives are incompatible . . . To put it briefly: *they are growing pains.*” (pp. 361–362).

The unfolding process of self-realization in psychodynamic treatment opens up a vital link to increasing the patient’s awareness of multiple, often opposing dimensions of the self. As treatment progresses, patient and therapist become aware of both the hated parts of the self and one’s inherent healing capacity. The real self will seem like “a phantom,” she wrote, unless we are “acquainted with the later phases of analysis” (Horney 1950, p. 175). It is a “possible self,” what we would have been if we had developed in a nurturing environment, or what we can become if we are “freed of the crippling shackles of neurosis” (p. 158).

With the analytic focus more on *process* than on *content*, the moment-to-moment unfolding of the patient’s subjectivity becomes much more available to the analyst. Both the patient and the analyst gain from this close listening. Dissociative

states that can come and go in the treatment hour are more easily highlighted. Permeable states of *knowing and not knowing* become more visible.

Self-realization comes from the depths of our being (see Horney 1950), and as we progress in “owning” it, we come closer and closer to the psychological truth of it. As “the ‘original’ force toward individual growth and fulfillment” (p. 158), the process of self-realization creates greater levels of courage and optimism in embracing change. Thus, it becomes the true antidote to “alienation from self” (p. 21). In short, self-realization as a therapeutic guide becomes a realistic answer to compassion fatigue and therapist burnout.

Conclusion

Self-compassion is the growth outcome of the self-realizing process and the growth outcome of resolving multiple levels of self-hate. Since it is inborn it does not need to be taught or instructed. Rather it requires a healthy environment in which to develop one’s capacities and be at one with our inherent selves. Theodore Rubin (1975) brings Karen Horney’s insights into contemporary life and modern culture. Delving into how self-hate begins and how it is sustained in both conscious and unconscious ways, Rubin focuses on how our cognitive and emotional idealizations are perpetuated by confusing and confused media presentations of accomplishment, success, and human relationships. He richly describes the confusion between healthy self-assertion and arrogant righteousness, between lovingness and self-effacing meekness, between disinterested mechanical living and wholehearted involvement. With such confusion the self becomes progressively more alienated from itself, leading to identity issues, addiction, despair, or pervasive character pathology. As a student of Karen Horney, Rubin (1975) strongly concurs with her that the neurotic developments of our day go beyond identifiable symptoms into the problem of morality, specifically the self-abnegating wish for unachievable perfection.

Cross-References

- ▶ [Basic Anxiety \(Horney\)](#)
- ▶ [Claims \(Horney\)](#)
- ▶ [Glory \(Horney\)](#)
- ▶ [Neurosis](#)
- ▶ [Neurotic Pride \(Idealized Image\) and Neurotic Self-Hate](#)

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Self-Referent Cognitions

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Synonyms

[Self-referent information processing](#); [Self-schemata](#)

Definition

Self-referent information processing describes how information from the environment is encoded, processed, or retrieved and connected to the self. This takes place through an individual’s self-schema, which is a stable, cognitive structure of thought patterns that influence how a person codes and interprets external stimuli in relation to him-/herself (Beck 1964). Self-referent cognitions are thoughts an individual has regarding him-/herself. They are the outcome of

self-referent information processing and the expression of self-schema.

Introduction

Information processing occurs when an individual receives information from the environment and then encodes, processes, or retrieves information from the memory. Many cognitive models of depression posit that biases in information processing are the principle cause of the development and maintenance of depression (for a review, see Jacobs et al. 2008). An important, related construct that predicts depression is a person's self-schema (Beck 1987). An individual's self-schema is a stable, cognitive structure that influences how an individual codes and interprets external stimuli in relation to him-/herself (Beck 1964). Aaron T. Beck (1987) posits that individuals with a depressogenic information processing style interpret negative information as self-referent and read ambiguous stimuli as negative. Further, individuals are also more likely to ignore information from the environment that is contrary to their self-schema (Beck 1987), which implies a bias in encoding or processing information from the individual's surroundings.

Negative Self-Referent Information Processing

Negative self-referent information processing biases arise when the individual endorses a negative self-schema (Derry and Kuiper 1981; Dykman et al. 1989; Kuiper and Derry 1982). Additionally, the *processing* of a self-schema (i.e., how easily an individual can encode and recall a particular memory) may contribute to differences between depressed and nondepressed individuals. To be more precise, depressed individuals' self-schema, compared to nondepressed individuals, operates less efficiently when recalling self-referent information in adults (Dozois and Dobson 2001; Kuiper and Derry 1982) and adolescents (Gençöz et al. 2001).

Summarized, depressed individuals tend to have more negative self-schemas and are

therefore more inclined to process negative, rather than neutral and/or positive, self-referent information compared to nondepressed individuals (Dozois and Dobson 2001; Gençöz et al. 2001). More specifically, the operations in information processing differ between depressed and nondepressed individuals, where depressed individuals store, process, and retrieve information in a negatively biased way (Dozois and Dobson 2001; Dykman et al. 1989; Gençöz et al. 2001; Kuiper and Derry 1982). These findings lend support to Aaron T. Beck's theory (1964, 1987) that negative self-referent information processing contributes to depression.

Use in Treatment and Research

Treatment of depression using so-called cognitive therapy often involves identifying negative self-schemata and self-referent cognitions with the client and proving their invalidity or unrealistic content during a process called cognitive restructuring (Beck 1976, 2011). The first step is often working with the negative self-referent cognitions that ultimately express the negative self-schemata. Then after the client learned the strategies to evaluate, question, and change negative cognitions, the therapist helps the client to work on the more difficult to identify and change negative schemata. The strategies for working with negative self-referent cognitions and negative self-schemata are identical. Interventions a therapist may use in the evaluation of cognitions and schemata include identifying the evidence for the validity of the cognition/schema, searching for alternative explanations to the conclusion based on the cognition/schema, problem-solving with the client around what the client should do about the cognition/schema, helping the client gain distance from the cognition/schema, and identifying the effect of the cognition/schema on the client (Beck 2011). Research demonstrates that treatment of depression applying these strategies belongs to the most effective approaches to treating depression in adults (for reviews, see Butler et al. 2006; Pössel and Hautzinger 2006) and adolescents (for a review, see Weisz et al. 2006).

Conclusion

Self-referent information processing describes how information from the environment is encoded, processed, or retrieved and connected to the self. This takes place through an individual's self-schema and self-referent cognitions that are the outcome of self-referent information processing and the expression of self-schema. Thus, negative self-schemata and self-referent cognitions contribute to the development and maintenance of symptoms of depression. Therapeutic interventions aimed at restructuring these schemata and cognitions are a main component of cognitive therapy, one of the most effective approaches to treating depression in adults (for reviews, see Butler et al. 2006; Pössel and Hautzinger 2006) and adolescents (for a review, see Weisz et al. 2006).

Cross-References

- ▶ [Cognitive Distortions](#)
- ▶ [Depressive Cognitive Triad](#)
- ▶ [Depressive Schemata](#)

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Self-Referent Information Processing

- ▶ [Self-Referent Cognitions](#)

Self-Reflection

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Synonyms

[Introspection](#); [Self-awareness](#); [Self-evaluation](#)

Definition

Self-reflection has several definitions based on specific theories and scales reported to measure the concept. However, most agree that self-reflection is time spent in introspection, with attention placed on the self-concept.

Introduction

Psychologists and nonpsychologists use the term self-reflection to refer to at least four phenomena. The most common use of the term is the equivalent of self-awareness – self-reflection is examining the self through attention placed on the self-concept. A quick PsychINFO database search reveals around 200 articles using the term self-reflection in this way. In 1984, the term “self-reflection” became the name given to a type of private self-consciousness (Burnkrant and Page 1984). More recently, Trapnell and Campbell (1999) introduced rumination and reflection as an alternative bifurcation of private self-awareness. Last, Grant et al. (2002) proposed a scale also related to private self-consciousness, called the Self-Reflection and Insight scale.

Self-Reflection: Good or Bad?

Self-reflection, when used as a generalized term involving self-awareness, insight, introspection, and self-examination, is generally viewed as a positive term. How can we know ourselves, desires, personality traits, strengths, weaknesses, mistakes, and successes without time spent reflecting upon the self? Therapists often ask clients to reflect upon themselves to discover what may be the cause and contributing factors of a disorder. Insights gained in therapy often help clients recover or at least help them understand and relieve their symptoms (see Fenigstein et al. 1975 for a brief overview; Simsek 2013).

Unfortunately, a dark side of self-reflection may exist. People high in the tendency to self-reflect also have a tendency for psychopathology, including depression, anxiety, neuroticism, and low self-esteem. The idea that self-reflection can be both good and bad for psychological health has been named “The Self-Absorption Paradox” by Trapnell and Campbell (1999, see Simsek 2013 for a counterargument). At least three scales attempt to tap into this paradox by distinguishing positive, healthy self-reflection, introspection, and self-understanding from a more negative

ruminative habitual self-reflection. These three scales are the Self-Reflectiveness and Internal State Awareness subscales of the Private Self-Consciousness scale (Burnkrant and Page 1984), the Rumination and Reflection scales (Trapnell and Campbell 1999), and the Self-Reflection and Insight scale (Grant et al. 2002). In each of these scales and the theories behind them, self-reflection has different meanings and implications.

Self-Reflectiveness

Private self-consciousness is an individual differences variable referring to people who spend more or less time in self-awareness. People high in private self-consciousness tend to spend more time in a state of high self-awareness in which they examine themselves, their goals, and progress towards those goals. People low in private self-consciousness tend to spend more time in a state of low self-awareness, where attention is not placed on the self. Instead, attention is placed outward towards the environment around them. Self-consciousness is discussed in more detail in its own entry in this Encyclopedia.

The first and most commonly used measure of self-consciousness is the Self-Consciousness scale (Fenigstein et al. 1975). The scale has three subscales, but the private self-consciousness subscale is the most commonly used measure of individual differences in self-awareness. Burnkrant and Page (1984) discovered that private self-consciousness may have two subscales of its own. They labeled these as Self-Reflectiveness and Internal State Awareness.

Self-Reflectiveness correlates positively with negative emotions, and the scale seems to tap into some sort of ruminative emphasis on evaluating one’s self negatively, placing emphasis on judgment and failures. Internal State Awareness, however, does not generally correlate with negative emotions, nor does it correlate strongly with positive emotions. ISA seems to be an introspective type of awareness that involves less negativity and a more open and curious examinations of

the self. The subscales of the private self-consciousness scale, however, are not completely stable from study to study – the items that load on each subscale in factor analyses vary, as do the correlations between the subscales (e.g., Trapnell and Campbell 1999; Silvia et al. 2004).

Rumination and Reflection

Trapnell and Campbell (1999) created the Rumination and Reflection scale as an alternate method of measuring a ruminative, negative aspect and a more positive, introspective aspect of private self-consciousness. Essentially, they believed that Self-Reflectiveness and Internal State Awareness confounded these types of self-consciousness, with both scales predicting the Openness trait and Self-Reflectiveness predicting the Neuroticism trait of the Big Five theory of personality (Costa and McCrae 1985). Trapnell and Campbell (1999) posited that this pattern of correlations demonstrates that both subscales of the Self-Consciousness scale measure the introspective aspect of self-consciousness, but Self-Reflectiveness also taps into the neurotic, less healthy, ruminative style of self-consciousness.

The Rumination and Reflection Scales were proposed as an alternate and more precise tool to measure positive and negative subtypes of private self-consciousness. Specifically, Trapnell and Campbell (1999) predicted that their Rumination scale would correlate with the personality trait Neuroticism as well as anxiety, depression, and other negative emotions. They predicted that their Reflection scale would correlate with the personality trait of Openness as well as positive emotions and measures of psychological well-being. Rumination did predict Neuroticism and a variety of negative emotions, including depression and anxiety. Reflection likewise predicted Openness but had small negative correlations with negative affect (Trapnell and Campbell 1999). Over the years, rumination has continued to predict depression, but reflection has not consistently predicted positive emotions or well-being.

Self-Reflection and Insight

Self-Reflection and Insight were also proposed as alternative ways of measuring positive and negative aspects of private self-consciousness. Self-Reflection is defined as “the inspection and evaluation of one’s thoughts, feelings, and behavior,” and is the result of constantly judging oneself in reference to goals, without necessarily obtaining insight and clarity in one’s self-concept. This type of self-focused attention has a negative connotation, but is not necessarily as negative as Rumination. Insight refers to “the clarity of understanding one’s thoughts, feelings and behavior.” This type of self-focused attention has a positive connotation associated with understanding the self-concept (Grant et al. 2002).

Thus, theoretically Self-Reflection should be related to negative emotions, but perhaps more importantly, Insight should be related to positive emotions and psychological well-being. The relationship of Insight with psychological well-being is fairly well documented. Grant et al. (2002) found that higher scores on the insight scales were negatively correlated with depression, anxiety, stress, and alexithymia. Silvia and Phillips (2011) found that Insight was negatively correlated with depression, anxiety, and general negative affect, while it was positively correlated with positive affect and self-esteem. Lyke (2009) and Harrington and Laffredo (2010) also found that Insight predicted markers of positive well-being.

Self-Reflection is related to negative emotions, but the relationship is not as large as those between Insight and emotions. Grant et al. (2002) found small but significant positive correlations between Self-Reflection and anxiety and stress. This pattern was observed by Silvia and Phillips (2011), but the correlations did not achieve statistical significance. Harrington and Loffredo (2010) found some evidence that Self-Reflection negatively correlates with well-being.

Relation to Self-Focused Attention

Self-Reflectiveness and Internal State Awareness are part of the private self-conscious scale, which

correlates with measures of self-focused attention and self-awareness. However, Rumination and Reflection do not (Silvia and Phillips 2011), and Self-Reflection and Insight have not been tested to assess whether they measure self-focused attention and self-awareness. What does this mean for attempts to resolve the self-absorption paradox – that self-reflection (as used as a synonym to self-focused attention) can have both positive and negative effects on psychology and mental health?

No conclusion can be made regarding the relationship between Self-Reflection and Insight and self-focused attention, simply because the relationship has not been tested. The two concepts do seem to tap into different perspectives on the self that are more and less psychologically healthy, but their relation to private self-consciousness and self-focused attention is unknown. Rumination and Reflection can predict negative emotions, but they do not achieve their goal of creating better measures of the subtypes of private self-consciousness. Currently, no psychologist has substantively proven that two subtypes of private self-consciousness are related to the self-absorption paradox of positive and negative self-focused attention. This is an area of research that deserves further attention and research.

Conclusion

Self-Reflection is commonly used as a synonym for introspection or self-awareness, but the term has several definitions in psychology. In the Private Self-Consciousness Scale, Self-Reflectiveness is a negative, ruminative type of self-consciousness in which people focus more on negative self-evaluative processes and outcomes. In the Rumination and Reflection scales, self-reflection has a more positive connotation in that self-reflection is not ruminative. In the Self-Reflection and Insight scales, self-reflection is the more negative of the two types of private self-consciousness, but it has not had strong and consistent relationships with negative emotions or well-being. Further research and theory is likely necessary to determine if two types of self-focused attention exist, what is

the best way of measuring them, and what they should be called.

Cross-References

- ▶ [Self-Awareness](#)
- ▶ [Self-Consciousness](#)
- ▶ [Self-Regulation](#)

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Self-Reflective

- ▶ [Introversion](#)

Self-Regulation

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Synonyms

Sometimes used interchangeably with [self-control](#)
(but see distinction made below)

Definition

The psychological process by which a person strives to attain valued outcomes. Self-regulation consists of all manner of goal setting and goal pursuit, which can be accomplished through both effortful control of behavior and effortless, automatic, or habitual forms of goal-directed behavior.

Introduction

Though the term *self-regulation* has sometimes been equated with *self-control*, here we use the term self-regulation more broadly to refer to the regulation of one's behavior and emotions through the process of pursuing one's goals, including goal setting and both effortful and automatic forms of goal-driven behavior (de Ridder et al. 2012; Fujita 2011). People engage in self-regulation throughout the day, and in many domains (e.g., work, leisure, health, sex, alcohol, tobacco, hygiene, sleep), as a means to reach both short-term and long-term goals (Hofmann et al. 2012). Such instances of everyday self-regulation include (but are not limited to) going to the gym instead of heading home after work, packing a lunch instead of buying one in the cafeteria, and keeping your mouth shut instead of yelling at your

boss. Though these behaviors all pertain to different goals (to be healthy, to save money, to remain employed), they are all instances of a situation where regulation of one's behavior is required to bring about a desired outcome.

As expressed in our definition, self-regulation is intimately related to goals. Goal pursuit first starts with goal setting – that is, selecting which goal(s) to pursue (see Gollwitzer 1990). Once a goal is set, the individual then compares their current state (i.e., where they are at now) to their desired state (i.e., where they would like to be). In the event of a discrepancy, the individual needs to adjust their behavior to get closer to the desired state. This active pursuit of a goal often involves self-control. Self-control consists of the effortful and usually conscious overriding of a proximal impulse or temptation that is in conflict with a distal goal (Carver and Scheier 2011; Milyavskaya and Inzlicht 2017). On the other hand, more automatic forms of goal-directed behavior consist of effortless and often unconscious processes of routinized behaviors in response to environmental cues, such as implementation intentions and habits (Fujita 2011).

Self-Regulation as Goal Pursuit

Goal Setting

During the process of goal pursuit, it is important for an individual to establish exactly what it is that they wish to accomplish at a given moment. The first model to differentiate between goal setting and goal striving is the Rubicon model of action phases (Gollwitzer 1990). Whereas goal striving refers to behavior directed toward existing goals, this model further suggests that goal setting answers the question of what goals a person will choose as a function of expected value, desirability, and feasibility. The process that is most often overlooked, however, is how an individual transfers their wishes and desires into more concrete goals. This is particularly important because people have a myriad of wishes and desires to choose from, and so it is up to them to selectively choose which ones to actually implement. This is where the evaluation of the expected value of various

options comes into play, as preferences can be established by assessing feasibility (“Do I have the ability and/or resources to attain the desired outcome?” “Is the environment I am in conducive to this goal or will it impede my progress?”) and desirability (“How pleasant are the short-term and long-term consequences?” “Will this goal lead to meaningful experiences and/or desired incentives or rewards?”). Once a goal is chosen (as a function of being both desirable and feasible), the individual is said to have “crossed the Rubicon,” and with their newfound intent, they are able to continue on with the process of goal pursuit (i.e., at this point shifting into goal striving).

An additional factor that contributes to goal setting is the social context or domain in which the goals are situated. Recent research in self-determination theory suggests that the extent to which a social context is supportive of the basic psychological needs for autonomy, competence, and relatedness influences both the types of goals that people pursue (or the “what”) and their underlying reasons (or the “why”) (Milyavskaya et al. 2014). For example, people are more likely to pursue autonomous goals (reflecting personal interest, importance, and meaning) in domains that are perceived as need supportive (Milyavskaya et al. 2014). The kind of goals people set, and their reasons (i.e., motivation) for pursuing them, influences the self-regulatory mechanisms that will later take place in pursuit of these goals. Recent research shows that autonomous goals lead to more automatic, effortless goal pursuit (Milyavskaya et al. 2015; Werner et al. 2016). These findings suggest that motivation plays an important role in how individuals set and pursue goals in their daily lives.

The Cybernetic Model

After setting a goal, it is up to the individual to regularly assess his or her goal progress. Control theory (or cybernetic theory; Carver and Scheier 1982) was one of the first theories to try to explain control processes, in a more general manner. The model centers on discrepancy-reducing (or negative) feedback loops, with the first stage of focusing on the input function, whereby the individual assesses the present condition (Carver and Scheier

1982). This present condition is then compared to a desired or ideal condition through a comparator mechanism. If the individual detects a discrepancy, he or she then enacts a behavior to reduce the discrepancy. This is called the output function, which changes the present condition. Another feedback loop is then set in motion to compare the new present condition to the desired one (Carver and Scheier 1982).

In the context of goal pursuit, discrepancy-reducing loops occur over multiple iterations, and as such allow individuals to monitor their goal progress. In the case where an individual is making satisfactory progress, he or she will continue on with pursuing the goal, as no discrepancy is detected and therefore no significant adjustment is required. However, if current progress is unsatisfactory, a discrepancy between current goal progress and the desired goal state is detected. The individual thus enacts a behavior to reduce the discrepancy and ultimately attain the desired goal (Carver and Scheier 2011). For example, if a student has the goal to have a 3.5 GPA, he or she will constantly compare the present condition of his or her grades to the desired condition. If the student’s grades start to deteriorate, he or she will then notice a discrepancy and choose to enact a new behavior to reduce it (e.g., studying more for the next exam). This premise is operating under the assumption that most long-term goals cannot actually be “attained” and consequently require active maintenance until they are no longer valuable or commitment wanes (either in general or when a competing goal takes precedence). Throughout the goal pursuit phase, it is important that individuals periodically monitor the progress they are making toward their goal (Carver and Scheier 1982; Gollwitzer 1999).

Temptations

Progress monitoring is particularly important because challenges are frequently encountered throughout goal pursuit. Specifically, it is quite common to experience temptations that conflict with a long-term goal (Hofmann et al. 2012). Temptations have a strong hedonic incentive value and are usually accompanied by a strong urge to satisfy the temptation. They can be

activated by stimuli in the environment, such as walking by an ice cream shop, or by internal triggers (e.g., thirst). Temptations are aimed at short-term gratification, and their value decreases when the physical and/or temporal proximity to the tempting stimuli is reduced (Hofmann et al. 2009). Temptations are mostly impulsive, automatic processes that operate outside of conscious awareness. Overriding these temptations, on the other hand, requires deliberate and effortful control (Hofmann et al. 2009). Because temptations usually interfere with long-term goals, such effortful control is necessary for effective self-regulation.

Effortful Goal Pursuit

As described above, the effortful control of behavior in goal pursuit is the “effortful inhibition of an immediately gratifying behavior or impulse” (Milyavskaya and Inzlicht 2017, p. 2). It typically implies a deliberate process, by which the individual inhibits undesirable responses that come in conflict with a set goal.

Baumeister and Heatherton (1996) were among the first to try to explain the self-control mechanism that people may use when faced with temptations. They conceptualized Carver and Scheier’s (1982) feedback loop as “one internal process overriding another” (Baumeister and Heatherton 1996, p. 2) and asked the question of what enables such overriding to occur. Their answer was a strength model, in which one’s strength to override a temptation must be greater than the strength of the impulse or temptation. This led to the elaboration of the resource model, which has become one of the most prominent models of self-control. The resource model posits that self-control is an inner capacity that relies on a limited internal resource or energy. The central tenet of this model is that repeatedly engaging in self-control depletes this limited inner resource, subsequently leading to a state of ego depletion (Baumeister and Heatherton 1996). For example, if someone repeatedly resists the temptation of spending money on clothing while passing boutiques during a walk in town, this same person will later fail at resisting junk food due to having depleted their self-control resource. This

prediction has been repeatedly tested, mainly using a sequential task paradigm, and shows that exerting self-control on a first task impairs the ability to do so on a second one (Hagger et al. 2010). However, recent debates about the magnitude of the effect (Hagger et al. 2010), an inability to replicate one of the paradigms in a large-scale preregistered replication effort across many labs (Hagger et al. 2016), and the absence of evidence of a plausible resource (see Milyavskaya and Inzlicht 2017 for review) have resulted in the development of newer models of self-control.

While the resource model emphasized the interplay between two systems, namely, impulses or temptations, that required overriding and a resource that could override these impulses, Hofmann et al. (2009) posit that self-control can be understood as a three-part system (dispositions and situations, impulsive thoughts, and reflective thoughts) in which some dispositions and situations can influence whether impulsive or reflective thoughts will “win” and determine the behavioral output (Hofmann et al. 2009). On the one hand, the impulsive system generates impulsive behavior as a function of associative clusters forming in one’s long-term memory. These clusters may be created or strengthened through temporal or spatial co-activation of (a) a stimulus, (b) an affective reaction, and (c) behavioral schemas. Once formed, these clusters can be instantly activated by perceptual clues in one’s environment or by triggering one’s inner homeostatic processes (e.g., hunger, thirst). On the other hand, the reflective system is responsible for higher-order mental operations, such as executive functions, putting together strategic plans for goal pursuit, and inhibiting impulses or habits. Thus, the reflective system includes more conscious, deliberate processes that allow for greater control over the more unconscious impulsive system. While both systems have the potential to influence behavior, the actual direction of one’s behavior is ultimately determined by situational and dispositional boundaries (e.g., self-control resources, cognitive capacity, working memory capacity; Hofmann et al. 2009).

The process model (Inzlicht and Schmeichel 2012) brings the three-part system one step further

by offering an explanation for the mechanics of the interplay between the different systems. As an alternative to the resource model, the process model states that initial self-control exertion leads to self-control failure at a second time point by (a) generating motivational shifts away from self-control and toward self-gratification and (b) generating attentional shifts away from cues that indicate the need for control toward cues that indicate reward (Inzlicht and Schmeichel 2012). In refining these ideas, the more recent shifting priorities model (Milyavskaya and Inzlicht 2017) posits that the decision to exert self-control is based on “numerous inputs reflecting the relative value of both indulgence and restraint” or valuation (Berkman et al. 2015, p. 6). In other words, individuals in a self-control dilemma weigh the pros and cons of the possible alternatives (e.g., giving in to temptation or indulgence vs. resisting). According to this model, attention serves to bring the self-control dilemma into conscious awareness, while both attention and motivation (i.e., the reasons why people pursue goals; Deci and Ryan 2000) affect the valuation of each alternative. The shifting priorities model provides an explanation for the decline in self-control over time by suggesting that a first instance of self-control shifts the value of exerting effort as well as the value of indulging away from self-control and toward temptations.

Automatic Goal Pursuit

Individuals have a limited capacity to process and respond consciously to their environments (e.g., Bargh and Chartrand 1999). As a result, people often rely on cognitive procedures that require minimal conscious effort, intention, monitoring, or resources to do so. The same can be said about self-regulation – though effortful self-control is useful to consciously control one’s behavior to override impulses and temptations, it is more efficient for this regulation of behavior to require less conscious effort (Fujita 2011).

Research confirms that goals can be put in motion automatically and can unconsciously guide behavior (Aarts and Dijksterhuis 2000; Fishbach et al. 2003). This automatization of goal-directed behaviors can occur in response to

environmental cues, as some features of the environment can automatically activate associated goals (Bargh et al. 2001). For example, walking past a bank can automatically prime one’s goal to save money. Studies show that unconsciously priming goal-specific cues increases goal-directed behavior (e.g., Bargh et al. 2001). However, there are different ways in which goals can be primed (Shah 2005). Instrumental goal priming occurs when specific means (e.g., settings, individuals, activities, behaviors) become associated with a specific goal. The relation is a functional one (degree of facilitation), and its increasing strength means increasing the likelihood that encountering the means will automatically activate the goal. On the other hand, interpersonal goal priming occurs when other individuals influence the goals that one chooses to pursue. In this case, the stronger and closer the relationship, the higher likelihood that one will consider the other’s input and goals (Shah 2005).

Such automatic goal priming can also come about through temptation-goal associations. Fishbach and colleagues (2003) argue that as a result of repeatedly exerting self-control, facilitative links form between the temptations and the distal goal with which they come in conflict, such that the subsequent display of a temptation cue activates the goal it would compromise. For example, if one repeatedly resists drinking alcohol, eventually the sight of alcohol paraphernalia has the potential to automatically activate the goal to remain sober. Given that such links would be overlearned, they would require few cognitive resources. This goal priming might bring the threat into conscious awareness and lead to the exertion of more effortful self-control (Fishbach et al. 2003).

Another way in which automatic self-regulation develops is through habits. Habits can be defined as “links between a goal and actions that are instrumental in attaining this goal” (Aarts and Dijksterhuis 2000, p. 54). Indeed, infrequent or unfamiliar goals prompt individuals to consider several possible actions before choosing the best one, which implies that the action will not be performed *immediately*. On the other hand, when a goal is familiar and regularly pursued, there is an

opportunity for associations to form between the goal and the frequently performed actions. Such associations emerge through frequent co-activation of the goal and a corresponding action, usually an action that has been shown to lead to goal achievement, and generally in the same context. The more frequently these co-activations occur, the stronger the habit becomes. Once habits are established, goal activation can automatically elicit the associated habitual behavior. Habits thus allow an individual to perform goal-directed actions in a mindless, automatic way. However, the activation of the goal is a necessary condition to the automatic unfolding of the habit (Aarts and Dijksterhuis 2000), which can occur as a function of environmental cues, as previously discussed.

In addition to the frequency and consistency of association between goals and actions, Gollwitzer (1999) has shown that implementation intentions can be used as a form of automatic self-regulation. Implementation intentions are created by labeling a specific if (or when)-then contingency between an environment or situation and a plan of action (e.g., *if/when* I am offered a soda, *then* I will ask for water). By doing so, a mental association is generated between the specific situational cue (soda) and the suitable goal-directed behavior (drinking water, which is in line with the goal to be healthy). Then, when such situations arise in the future, the preset behavior will be immediately and automatically performed (Gollwitzer 1999). Implementation intentions can be used to plan for anticipated temptations that may distract an individual from attaining their goal and can thus help one stay on track by actively avoiding them (Gollwitzer 1999). Because the individual already has a prepared response to an expected temptation, the self-control dilemma does not require the individual's conscious attention, thus facilitating a more automatic or habitual response (Gollwitzer 1999). Further evidence that implementation intentions lead to more automatic responses stems from the findings that goal-directed behaviors can be efficient under heavy cognitive load and are enacted faster when the stimulus is subliminal (for an overview of the mechanisms of implementation intentions, see Gollwitzer and Sheeran 2006).

Individual Differences in Self-Regulation

While self-regulation is often goal specific and situational, there are also individual differences that affect self-regulatory success and failure. For example, although many factors such as goal strength, motivation, current mood, etc., may affect whether a person purchases a cupcake even though it conflicts with their goal to eat healthy, some people are more likely to frequently cave in to buying the cupcake, whereas others are rarely fazed by such a treat. Such individual differences may occur as a function of varying personality traits, biological processes, and cognitive functions. In this final section, we describe some of these individual difference factors that can influence self-regulation, including trait self-control, conscientiousness, behavioral approach and inhibition systems, and working memory (for a more extensive review, see Carver 2005).

Trait Self-Control

From a personality perspective, it is important to note that there are dispositional differences in the ability to engage in different self-regulatory processes across multiple domains (e.g., academic, health, relationships). One such difference, termed trait self-control, is thought to represent a difference in the general ability to override impulses (de Ridder et al. 2012). Indeed, a recent meta-analysis found a small-to-medium effect size for measures of trait self-control predicting positive behavioral outcomes in a variety of life domains (de Ridder et al. 2012). In other words, this review provided evidence for the longstanding assumption that being able to successfully control one's behavior is associated with a wide array of positive outcomes, whereas the lack of self-control often leads to undesirable responses.

In an attempt to explain the mechanism underlying dispositional self-control, Adriaanse and colleagues (2014) explored the role of automatic behavior. In a daily diary study examining habits and eating behaviors, they found that people high in trait self-control were more likely to have weaker unhealthy snacking habits, which in turn predicted lower consumption of unhealthy snacks

throughout the week (Adriaanse et al. 2014). These findings suggest that people high in trait self-control are not necessarily better in regulating their behavior because they are better able to resist temptations; rather, they are more successful because they develop more adaptive habits (Adriaanse et al. 2014). Thus, a key conclusion from this evidence is that people high in trait self-control are better at setting up their environment in a way that is conducive to successful regulation, which ultimately translates into the successful attainment of one's goals.

Conscientiousness

While self-control can be dispositional in and of itself, it is also the case that other well-known personality factors influence self-regulation. Drawing from the Five Factor Model of Personality (i.e., the "Big Five"), conscientiousness has been associated with positive self-regulation. Conscientiousness refers to the tendency to follow socially prescribed norms and rules and engage in impulse control to do so, to plan ahead, to be goal driven, and to be able to delay gratification. Conscientiousness has been shown to play an important role in the regulation of temptations, specifically regarding behaviors associated with impulse versus restraint (Carver 2005). For example, people high in conscientiousness are more likely to consider future consequences when choosing their behavior (Strathman et al. 1994). While other traits from the Big Five may also play an arguably smaller role in the process of self-regulation (e.g., agreeableness, neuroticism), for the sake of brevity, they are not discussed here (cf. Carver 2005).

Approach (BAS) and Avoidance (BIS) Systems

Shifting toward a more biopsychological perspective, a distinction has been made between approach and avoidance-based motive systems that underlie affect and behavior (Gray 1994). The behavioral approach system (BAS) is an appetitive system that serves to activate or facilitate action and is often attuned to rewards and goal achievement. Using a stoplight analogy, this system would serve as the green light or the "go" system. Because of this system's affiliation with

the dopaminergic reward system in the brain (via the ventral tegmental area of the midbrain in the anticipation of rewards and the mesial prefrontal cortex after the receipt of rewards), positive outcomes (e.g., positive affect) emerge when it is activated (Carver 2005). Conversely, the red light or "stop" system is the behavioral inhibition system (BIS). Activated in the face of threat or novelty, this avoidance system triggers negative affect (e.g., anxiety) and encourages an individual to withdraw in order to avoid punishment and reduce the negative affect. From a biological perspective, research shows that responses to threat are associated with the activation of the right anterior cortex, indicating this area as the root of avoidance motivation (Carver 2005).

As with the aforementioned concept of trait self-control and the Big Five personality characteristics, there are dispositional differences in the extent to which these approach and avoidance motive systems influence behavioral activity. Specifically, individuals lower in approach tendencies (i.e., having a less reactive BAS) are less likely to engage in impulsive behaviors than those higher in approach (i.e., having a more reactive BAS) (Carver, 2005; Gray 1994). This is likely because temptations often have high intrinsic value (e.g., Milyavskaya and Inzlicht 2017) and so those with a more reactive BAS will respond in a way that allows them to achieve that immediate reward, even at the sake of impeding progress on their more distal goal. However the reverse is true for BIS – those higher in avoidance (i.e., a more reactive BIS) are less likely to engage in impulsive behaviors than individuals with lower avoidance tendencies (i.e., a less reactive BIS) (Carver 2005; Gray 1994). This is likely because if an individual is faced with temptation, the individual with a more reactive BIS will be driven to avoid the negative consequences associated with impulsive behaviors that can impede their goal progress.

Working Memory

As previously described, the dual systems perspective of self-regulation emphasizes the interplay between the reflective (i.e., controlled) and impulsive (i.e., automatic) systems. Expanding this work, Hofmann and colleagues (2008) drew

from the cognitive literature to argue that individual differences in working memory capacity enable the extent to which consciously controlled processes can override automatic or habitual responding. In other words, individuals with greater working memory are more likely to be successful in enacting controlled, goal-directed behavior, whereas those with a lower working memory capacity are more likely to make a decision without considering alternative responses (for a review, see Barrett et al. 2004).

To directly examine the role of working memory capacity in self-regulation, Hofmann et al. (2008) conducted three studies examining whether individual differences in working memory differentially influence the impulsive and reflective systems in the domains of sexuality, eating behavior, and anger expression. Across all domains, results consistently suggested that individuals with lower working memory capacity were more likely to rely on automatic processes than individuals with greater working memory capacity. For example, within the eating behavior domain, automatic attitudes toward candy resulted in greater liking and consumption, but only for individuals with lower working memory capacity. Similar patterns were also found in the other domains. Overall, these findings suggest that it is also important to take into consideration the different cognitive conditions that influence the extent to which an individual relies on more automatic (e.g., habitual) versus consciously controlled (e.g., planning) processes when faced with temptations that require self-regulation.

Conclusion

In this entry, we provided a brief overview of both past and current perspectives on self-regulation. While there has yet to be a consensus on what self-regulation really is, here we take the stance that self-regulation goes beyond the classic idea of effortful self-control. Instead, we present a series of contemporary theories and models that build on these fundamental ideas by arguing that attention should be paid to the interplay between conscious control processes

(i.e., effortful self-control) and more automatic (e.g., effortless, habitual) processes. Evidence for this proposition is further provided by research on individual differences from a wide array of perspectives, including personality, biopsychology, and cognition.

Cross-References

- ▶ Compensation
- ▶ Conscientiousness
- ▶ Ego Depletion
- ▶ Goal Standards
- ▶ Intentions
- ▶ Introjected Regulation
- ▶ Metacognition
- ▶ Regulatory Mode
- ▶ Self-Control

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Self-Regulation Process

► Procrastination

Self-Reliance

► Self-Directedness

Self-Report

- ▶ [Five-Factor Narcissism Inventory](#)
- ▶ [Levenson Self-Report Psychopathy Scale](#)

Self-Report Psychopathy Scale (SRP)

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Definition/Abstract

The Self-Report Psychopathy Scale (SRP; Paulhus et al. 2009) is a widely used self-report measure of psychopathy. As measured by the SRP, psychopathy is defined as a pathological personality style marked by interpersonal (e.g., deceitfulness and grandiosity), affective (e.g., lack of empathy and remorse), lifestyle (e.g., impulsivity and sensation-seeking), and antisocial (e.g., delinquency and criminality) features. Psychopathy has been shown to predict criminal behavior, delinquency, recidivism, and violence.

Introduction

Robert Hare's model of forensic psychopathy has been considered the most influential model since the early work of Cleckley (1941/1976) in the mid-1900s (Paulhus et al. [in press](#)). Hare originally put forth a unitary model of psychopathy composed of two correlated factors (i.e., personality factor and behavioral factor). He later revised this model by breaking the two factors down into four facets: interpersonal and affective facets making up the personality factor and parasitic lifestyle and antisocial behavior composing the behavioral factor.

In order to assess psychopathy in a structured manner, Hare developed the Psychopathy Checklist (PCL). The PCL has since been revised

(PCL-R; Hare 1991) and is considered to be the gold standard for assessing psychopathy. The measure consists of 20 items completed by a clinician that are based on results from a semi-structured interview as well as a review of collateral information (e.g., case files). The PCL-R has been shown to map onto the five-factor model (FFM) of personality, with high scores correlating with disagreeableness and low conscientiousness (Paulhus et al. [in press](#)). The PCL-R was designed for use in forensic settings but has also been implemented in non-forensic populations. Though the PCL-R is a comprehensive, objective, and reliable measure of psychopathy, it is time-consuming to administer, requires extensive clinical training and access to collateral records, and is inefficient for use outside of a criminal or clinical setting (Mahmut et al. 2011). These limitations pushed Hare to develop a more accessible and convenient alternative, the Self-Report Psychopathy Scale (SRP; Hare 1985), to allow for self-administered assessment of psychopathic traits for use in research and other non-forensic settings.

Early Iterations of the SRP (SRP and SRP-II)

The SRP has undergone a number of revisions since its initial development. The original 29-item SRP was developed as a self-report analogue to the PCL and mirrored its unidimensional structure, with total scores on the original PCL and SRP being moderately correlated with one another. The PCL was subsequently revised (PCL-R) to fit Hare's new two-factor conceptualization of psychopathy. The SRP was also revised (SRP-II), and while it had several strengths (e.g., good criterion-related validity and construct validity), it was found that its factor structure did not capture the proposed two factor-model of psychopathy (i.e., interpersonal/affective and lifestyle/antisocial) of the PCL-R. Researchers argued that the early versions of the SRP contained too many anxiety-related items, an insufficient number of items reflecting antisocial behavior, and poor internal consistency. Another point of contention relates to controversies regarding the underlying factor

structure of psychopathy. While some researchers argue that psychopathy is composed of two or three factors, others argue for a four-factor structure. The SRP was revised once again to reflect the four-factor model, and much research has supported its factor structure (Mahmut et al. 2011; Neal and Sellbom 2012; Neumann and Pardini 2014; Williams et al. 2007).

SRP-III and SRP-4

To address concerns regarding earlier versions of the SRP, Paulhus et al. (2009) developed the SRP-III. The SRP-III consists of 64 items that compose four 16-item factors: interpersonal manipulation, callous affect, erratic lifestyle, and criminal tendencies. These four factors align with the two factors and four facets of the PCL-R, with factor 1 consisting of facets 1 (i.e., Interpersonal Manipulation) and 2 (i.e., Callous Affect), and factor 2 consisting of facets 3 (i.e., Erratic Lifestyle) and 4 (i.e., Criminal Tendencies). Evidence supporting the four-factor structure of the SRP-III has emerged from several studies using a variety of samples, including undergraduate students and criminal offenders (Mahmut et al. 2011; Neal and Sellbom 2012; Seibert et al. 2011). Response options for the SRP-III range from 1 (disagree strongly) to 5 (agree strongly), for a total score ranging from 64 to 320. Sample items from each subscale include: “I think I could beat a lie detector” (Interpersonal Manipulation); “I never feel guilty over hurting others” (Callous Affect); “I’ve often done dangerous things just for the thrill of it” (Erratic Lifestyle); and “I have tried to hit someone with a vehicle” (Criminal Tendencies). Correlations between the four facets of the SRP-III and those of the PCL-R in a forensic sample reveal strong associations between the lifestyle ($r = .77$) and antisocial ($r = .70$) subscales and moderate correlations between the interpersonal ($r = .36$) and affective ($r = .44$) subscales on each measure (Paulhus et al. [in press](#)). The most recent version, the SRP-4, retains the factor structure of the SRP-III and contains 64 items reflecting the same 2 factors and 4 facets of the SRP-III. In this iteration, each facet consists

of an equal number of items. This measure is scored on the same 5-point scale as the SRP-III, with factor and total scores calculated from the means of the facet-level items. This iteration was recently developed, and thus psychometric data are currently lacking.

Psychometric Properties of the SRP

Validity

The SRP has been normed in three major populations: criminal offenders, undergraduates, and community members. Several studies have revealed fairly strong psychometric properties of the SRP-III. The SRP-III has been found to have good convergent and discriminant validity, and the full scale and each subscale have been found to have strong internal consistency in samples of undergraduates, community members, and criminal offenders (Mahmut et al. 2011; Neal and Sellbom 2012; Tew et al. 2015). In one investigation of the utility of using the SRP-III in a sample of undergraduates, the scale was found to correlate at the $p < .001$ level with other measures of psychopathy, indicating that it has good criterion validity (Neal and Sellbom 2012). The SRP-III was also found to have good convergent validity, as evidenced by its positive correlations with several aspects of the psychopathic personality style, such as drug use ($r = .43$), thrill seeking ($r = .68$), aggression ($r = .64$), and irresponsibility ($r = .55$) and negative correlations with traits such as dependability ($r = -.36$), empathy ($r = -.55$), and honesty ($r = -.47$). The SRP-III was uncorrelated with emotional distress, negative emotionality, social avoidance, and shyness, thus providing evidence of discriminant validity. Two weaknesses of the SRP-III were identified by this study. The first was that the Interpersonal Manipulation subscale was more strongly associated with impatient urgency than the other three subscales. Since impatient urgency is theoretically considered to be a component of the erratic lifestyle factor, this indicates that the Interpersonal Manipulation subscale may overlap with the Erratic Lifestyle subscale. In addition, the SRP-III was not correlated with fear and only weakly

correlated with interpersonal assertiveness and dominance, factors that have been conceptually and empirically linked to psychopathy. In a study of criminal offenders in the United Kingdom (Tew et al. 2015), the Erratic Lifestyle and Criminal Tendencies subscales of the SRP-III were found to be valid measures of the lifestyle and criminality aspects of psychopathy but that the Callous Affect and Interpersonal Manipulation scales should be improved to better capture their respective components of psychopathy.

Evidence in support of the validity of the SRP-4 exists and has recently been presented. Self-reported SRP-4 scores have been found to correlate with peer ratings in non-forensic samples, demonstrating convergent validity (Paulhus et al. *in press*). Behavioral evidence has emerged that supports the measure's construct validity. For example, scores on the SRP have been shown to predict cheating on academic exams and engaging in fraudulent behavior (Paulhus et al. *in press*).

Reliability

A study of criminal offenders in the United Kingdom revealed evidence of internal consistency and homogeneity of the SRP-III but with a few exceptions (Tew et al. 2015). More specifically, they found that the scales assessing interpersonal and affective aspects of psychopathy were more internally consistent than scales measuring behavioral aspects of psychopathy (i.e., antisocial behavior). They also found that the Criminal Tendencies subscale only bordered on homogeneity. The SRP has also exhibited good internal consistency in samples of undergraduate students and community adults (Mahmut et al. 2011; Neal and Sellbom 2012; Seibert et al. 2011).

SRP Short Form

The SRP Short-Form (SRP-SF; Paulhus et al. 2009) consists of 28 items and has been found to be strongly correlated with the full version of the SRP-III and the PCL-R in adult male offenders (Neumann and Pardini 2014). Though the development of the short form has not been described in depth, it has evidenced good construct validity

and unidimensionality of each factor. However, the interpersonal features of psychopathy had the highest factor loadings while the affect-related questions had the lowest factor loadings. This may reflect the difficulty of assessing affect via self-report measures. In addition, the lifestyle features were most strongly predictive of externalizing, criminal offending, and internalizing psychopathology, suggesting that these features may be of particular importance in clinical and treatment settings.

Conclusion

The SRP is a widely used measure of psychopathic personality traits that is based on Hare's two-factor, four-facet structure of psychopathy. The SRP has demonstrated strong psychometric properties that have improved with each iteration. The SRP has allowed for a more accessible assessment of psychopathy than the more time- and resource-intensive PCL-R, and it has facilitated the assessment of psychopathy in both forensic and non-forensic populations.

Cross-References

- ▶ [Antisocial Behavior](#)
- ▶ [Construct Validity](#)
- ▶ [Convergent Validity](#)
- ▶ [Hare Psychopathy Checklist](#)
- ▶ [Psychopathy](#)
- ▶ [Psychopathy Checklist-Revised \(PCL-R\)](#)

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Self-Schema

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Synonyms

Self-schemas; Self-schemata

Definition

A self-schema is a memory structure that, like other schemas, guides how people attend to, interpret, encode, and retrieve information. However, unlike other schemas, it develops when the person uses self-awareness and self-reflection to make

sense of his or her experiences and identity. Although it is grounded in the self, it can also influence the processing of information not obviously connected to the self.

Introduction

When there are numerous enduring connections in memory organized around a particular concept, that set of associations forms a *schema* (plural *schemas* or *schemata*). A schema is a cognitive structure that integrates learned information about a particular concept, and it is activated whenever new information relevant to that concept is encountered (Alba and Hasher 1983). Once activated, schemas facilitate information processing in a top-down manner, which means new information is understood in light of what the person already believes to be true. Put another way, a schema provides a framework for understanding stimuli relevant to a particular concept. It guides how the meaning of that information is encoded by assimilating it to the content of the schema (Alba and Hasher 1983).

Self-schemas are schemas constructed through attempts to explain and organize one's own behavior and past experiences, and they guide information processing relevant to the self (Markus 1977). Within human memory, self-relevant information exists in what is arguably the most elaborate and extensive network of associations (McConnell et al. 2013). Self-relevant information receives privileged attention and is processed in greater depth, creating the possibility of having many self-schemas (McConnell et al. 2013).

Self-Schemas as Cognitive Structures

Judgment, memory, and behavior are influenced by the concepts currently available in memory (Smith 1996). The availability, or *accessibility*, of information in the mind changes from moment to moment, and both internal thoughts and external encounters (e.g., any incoming sensory information, such as conversations or images) can increase the accessibility of related material in

memory via spreading activation (Smith 1996). However, not all concepts have the same likelihood of activation in all individuals. The same stimulus may prime different associations in different people as a result of each person's unique collection of memories (Bargh 1982). In addition, concepts that an individual repeatedly encounters over time will develop a high level of accessibility at baseline, also known as *chronic accessibility* (Smith 1996).

Theoretically, any information has the potential to become chronically accessible as long as it receives sufficient repeated activation. Practically, however, people most frequently encounter, think about, and retrieve information relevant to themselves. As such, self-relevance is often used to operationally define chronic accessibility, and self-schemas can be considered chronically accessible knowledge structures that are meaningful to one's identity (McConnell et al. 2013). The particular self-schemas a person has habitually guide their attention, memory, and retrieval in the same way as recently primed concepts.

For example, Markus (1977) found that participants for whom "independence" or "dependence" were schematic, compared to people who were not schematic on those constructs (aschematics), processed information relevant to that self-schema more quickly. There were two criteria for categorizing participants as schematic: They must have (1) given themselves an extreme rating when asked if they possessed traits like independent vs. dependent and leader vs. follower and (2) rated those same traits as personally important. Later, all participants used a computer to indicate as quickly as possible whether a trait adjective was descriptive of them (a "me" response) or not descriptive of them (a "not me" response). Participants who were schematic for independence or dependence had shorter response latencies for "me" and "not me" judgments for adjectives related to independence and dependence. In other words, because these participants already had a schema devoted to that concept, they could quickly judge whether they possessed related qualities.

Additional evidence for self-schemas improving information processing is seen in schematic

and aschematic participants' performance on a split-attention task. Participants shadowed (i.e., spoke aloud) words played to one ear while simultaneously hitting a button whenever a light appeared nearby (Bargh 1982). When the words they were shadowing were related to independence, schematic participants were faster to respond to the light than aschematic participants. Possessing a schema for independence enabled these participants to process related information automatically, thus leaving them with more cognitive resources for the secondary task.

Consequences of Self-Schemas

Beyond processing related information more efficiently, schemas are used to fill in the gaps when information is incomplete or ambiguous (Alba and Hasher 1983). In the case of self-schemas, individuals who are schematic for a personality trait (e.g., masculinity) are more attentive to the presence or absence of that trait in other people, which then shapes their impressions and memories of those people (Markus et al. 1985). However, because self-schemas are integrated into the person's broader self-concept, they are ultimately constrained by the activation or utilization of other self-knowledge.

To explain, at any given moment a person may define him or herself in terms of a specific self-aspect, which could be a social identity, role, goal, etc. Self-aspects can differ from one another, and it is possible that only some self-aspects will be connected to a self-schema. For example, an "independence" self-schema might be connected to the person's self-aspects involving work, family, and friends but not to that person's marriage self-aspect. Self-schemas only influence information processing and social perception when they are related to the individual's current self-aspect (Brown and McConnell 2009).

Self-schemas have also received considerable attention for their role in attitudes, decisions, and performance (e.g., Wheeler et al. 2005). Persuasive appeals that match a person's self-schema, such as having people with a "healthy eater" self-schema list specific actions they can do to eat

healthier, are more effective at changing behavior (Kendzierski et al. 2015). People can also possess conflicting self-schemas that can be utilized to increase the person's fit with their current environment or task. This is evident in African Americans' ability to switch between a "independence" self-schema derived from mainstream American culture and an "interdependence" self-schema connected to African American culture (Brannon et al. 2015). Educational institutions in the USA usually activate African American college students' independence self-schema, but providing opportunities to activate and use their interdependence self-schema increases feelings of fit and social inclusion, which then improves academic performance (Brannon et al. 2015).

Conclusion

Self-schemas are cognitive structures built from experience and self-reflection. They guide information processing at all stages, spanning attention, encoding, interpretation, and retrieval. Because they exist within the broader associative network of the self, their activation is influenced by the person's currently accessible self-knowledge (e.g., active self-aspect). Matching an environment or persuasive appeal to a person's self-schemas can influence decisions and performance.

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Self-Schemas

- ▶ Self-Concept Content
- ▶ Self-Schema

Self-Schemata

- ▶ Self-Referent Cognitions
- ▶ Self-Schema

Self-Serving Attributional Style

- ▶ Self-Serving Bias

Self-Serving Attributions

- ▶ Self-Serving Bias

Self-Serving Bias

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Synonyms

[Self-serving attributional style](#); [Self-serving attributions](#)

Definition

A bias in which people take responsibility for good outcomes, while attributing bad outcomes to external causes.

Introduction

The self-serving bias is the tendency to take credit for positive outcomes and blame negative outcomes on factors external to the self or outside one's control. For example, a student who does well on an exam may ascribe the success to his or her intelligence and great study habits, while a poor showing would be attributed to difficult test questions, an unfair instructor, or a stressful workload that precluded adequate study time. The self-serving bias is evident when explaining our behavior in a wide range of domains, including academic and job performance, athletics, interpersonal outcomes, and driving ability.

Motivational Factors

A principal reason for the self-serving bias is the motivation to boost feelings of self-worth and protect the self from threatening information. This account is supported by findings that the self-serving bias is stronger when explaining outcomes high in personal importance. Important events obviously carry a greater potential to enhance or threaten self-worth, and as a result, amplifies the motivation

to draw favorable conclusions. For instance, people will make stronger self-serving attributions for their job-related performance than they would for performance at leisurely activities or hobbies.

The self-serving bias also depends on culture, based on a culture's assumptions about whether a person's self-worth and identity are linked to personal achievements. Hence, the self-serving bias is more potent in individualistic Western cultures that place a larger premium on the self and individual accomplishments. By contrast, in collectivistic cultures, people's identity and worth are more strongly defined by important reference groups (e.g., their family, the company where they work) and belongingness to them (Markus and Kitayama 1991). With less importance attached to the self, people in collectivistic cultures exhibit a weaker self-serving bias, although it still exists to some degree (Mezulis et al. 2004).

None of this is to say that people make self-serving explanations intentionally as a strategic maneuver to enhance the self. Like most cognitive biases, the self-serving style is implemented largely outside of conscious awareness (Shepperd et al. 2008). The bias occurs because it benefits the user in important ways (Snyder and Higgins 1988). For example, when failing to achieve a goal, externalizing the blame can help sustain self-confidence and optimism needed to fuel continued effort. More generally, the use of self-serving attributions strengthens a person's resilience after experiencing negative life events (Bonanno et al. 2002). Consistent with these ideas, the self-serving bias is considerably weaker among individuals who suffer from depression and anxiety, at least in individualistic cultures (Tennen and Herzberger 1987).

Thus, the self-serving bias can function as an adaptive means of regulating emotions and persisting in the face of failure, as long as its benefits outweigh the potential costs of the bias. For example, a self-serving style that consistently oversteps the bounds of reality (e.g., never taking responsibility for negative results) would incur considerable personal and social costs, such as the inability to learn from one's mistakes and a reputation as narcissistic or delusional.

Nonmotivational Factors

The self-serving bias can also arise in the absence of a motivation to self-enhance. This can happen when people use their expectations of their outcomes to guide the inferences they make. These expectations are usually positive because most people have favorable views of themselves and their abilities (Taylor and Brown 1988). When things turn out as they expect, people reflexively take credit for them. However, unexpected outcomes tend to produce uncertainty and leads people to search for the cause of these events. When the outcome does not fit with a person's favorable self-views, the outcome will tend to get dismissed as an anomaly and blamed on some external factor. For example, when a good student fails an exam, he is unlikely to attribute his poor performance to his competent self that has notched a history of academic successes, and will instead look for other causes that could have interfered with this one performance.

Expectations can explain other cases where self-serving attributions are likely to be employed. People with high (vs. low) self-esteem exhibit a stronger self-serving bias. Negative outcomes do not fit well with their positive self-views, so they should be more likely to assume the blame lies elsewhere. In contrast, people who experience depression or anxiety may exhibit a weaker self-serving bias because their initial expectations are lower. Men exhibit a stronger self-serving bias than women, in part because men tend to have higher estimations of their abilities and greater expectations of success at many tasks (Mezulis et al. 2004).

Conclusion

Self-serving attributions are used when explaining events in a variety of settings, especially when outcomes are connected to a person's self-worth and when expectations for

success are high. Although the self-serving bias can distort the perception about the true causes of events, it can nevertheless serve as an important mechanism in successful goal pursuit and the ability to cope with negative feedback.

Cross-References

- ▶ [Attributional Styles](#)
- ▶ [Attributions](#)
- ▶ [Outcome Expectancies](#)
- ▶ [Self-Enhancement Bias](#)

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Self-Structure

- ▶ [Compartmentalization](#)

Self-Talk

- ▶ [Internal Monologue](#)
- ▶ [Self-Dialogue](#)

Self-Transcendence

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Synonyms

[Inner voice](#); [Spirituality](#)

Definition

Self-transcendence (concept of our participation in the world as a whole) is one of the three aspects of human character in Cloninger's biopsychosociospiritual model of personality (Cloninger et al. 1993). This character trait is a measure of how well people identify themselves as an integral part of the universe as a whole and their experience of something elevated that goes beyond ourselves, that is, self-forgetfulness, transpersonal identification, spiritual acceptance, contemplation, idealism (Cloninger 2004).

Introduction

Self-transcendence represents the judicial branch of mental self-government or the ability to know when rules apply to a particular situation. Self-transcendent people are described as self-forgetful (intuitive and light), transpersonal (holistic and joyful), and spiritual in perspective, whereas those who are low in self-transcendence are self-striving (controlling), individualistic (defensive), and secular (materialistic and nonreligious).

Measurement

Self-transcendence is measured using the Temperament and Character Inventory (Cloninger et al. 1994). Self-transcendence is composed of five subscales: Self-forgetfulness versus Self-preoccupation (ST1), Transpersonal Identification versus Disidentification (ST2), Spiritual Acceptance versus Rational Materialism (ST3), Contemplation versus Skepticism (ST4), and Idealism versus Practicality (ST5). See Table 1 for details on high and low scorers in these subscales (see also <https://tci.anthropedia.org/en/>).

Conclusion

The degree of self-transcendence refers to the degree to which a person feels connected to the world in a meaningful way. In clinical practice, there are three distinguishable pathways that lead to a downward spiral (Cloninger et al. 1997; Wong and Cloninger 2010; Cloninger 2013a). Decreases in, or underdevelopment of, self-transcendence leads through a pathway of catastrophic and impatient thinking, which involves a loss of faith in struggles between being controlled and seeking to control others. When we catastrophize or become impatient and judgmental, there is a decrease in self-transcendence and we become preoccupied with struggles against problems and obstacles over which we have no control, as in posttraumatic stress disorders (Cloninger 2004, 2013b; Cloninger and Cloninger 2011; Cloninger and Garcia 2015).

Self-Transcendence, Table 1 The three lower order subscales that compose the self-transcendence (ST) scale of the temperament and character inventory

High scorers		Low scorers
Tend to transcend their self-boundaries when deeply involved in a relationship or when concentrating in what they are doing, forget where they are for a while, and lose awareness of the passage of time. Thus, appearing “in another world” or “absent minded.” Individuals who experience such self-forgetfulness are often described as creative and original	(ST1) Self-forgetfulness versus self-preoccupation	Tend to remain aware of their individuality in a relationship or when concentrating on their work. These individuals are rarely deeply moved by art or beauty. Thus, others usually perceive them as conventional, prosaic, unimaginative, or self-conscious
Tend to experience an extraordinarily strong connection to nature and the universe as a whole, including the physical environment as well as people. They often report feeling that everything seems to be a part of a living organism and are often willing to make personal sacrifices in order to make the world a better place by trying to prevent war, poverty, or injustice. They might be regarded as fuzzy-thinking idealists	(ST2) Transpersonal identification versus disidentification	Rarely experience strong connections to nature or people. They tend to be individualists who feel that they are neither directly nor indirectly responsible for what is going on with other people or the rest of the world. Such individuals view nature as an external object to be manipulated instrumentally, rather than something of which they are an integral part
Often believe in miracles, extrasensory experiences, and other spiritual phenomena such as telepathy or a “sixth sense.” They show magical thinking and are both vitalized and comforted by spiritual experiences. They might deal with suffering and even death through faith that they have, which may involve communion with their God	(ST3) Spiritual acceptance versus rational materialism	Tend to accept only materialism and objective empiricism. They are often unwilling to accept things that cannot be scientifically explained. This, in turn, is a disadvantage when they face situations over which there is no control or possibility for evaluating by rational objective means (e.g., inevitable death, suffering, or unjust punishments)
These individuals pray often, listen to their inner voice and sense supernatural guidance	(ST4) Contemplation versus skepticism	These individuals do not believe in supernatural communication and are spiritual skeptics. In other words, they lack faith and creativity
These individuals have high moral ideals and might be described as honorable	(ST5) Idealism versus practicality	Pragmatic in their moral choices and are easily tempted. They lack charity and kindness

Cross-References

- ▶ Cooperativeness
- ▶ Self-Directedness
- ▶ Spirituality
- ▶ Temperament and Character Inventory (TCI)

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Self-Validation

- ▶ [Self-Verification Theory](#)

Self-Verification Theory

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Synonyms

[Self-confirmation](#); [Self-validation](#)

Definition

Self-verification is a social psychological theory that asserts that people want others to see them as they see themselves and will take active steps to ensure that others perceive them in ways that confirm their stable self-views.

Introduction

Self-verification theory proposes that people prefer to be seen as they see themselves, even if their self-views are negative (Swann 2012). The theory holds that people act according to the preference for evaluations that verify their self-views by working to ensure that their experiences confirm and reinforce their self-views. For example, those who see themselves as likable seek out and embrace others who evaluate them positively, whereas those who see themselves as dislikable seek out and embrace others who evaluate them negatively.

Origins of Self-Verification

Self-verification theory is based on the premise that people have a powerful desire to confirm and thus stabilize their firmly held self-views. This idea was first articulated by Prescott Lecky (1945) who proposed that chronic self-views give people a strong sense of coherence. For this reason, people are motivated to maintain their self-views. Self-verification theory (Swann 1983) developed Lecky's idea that stable self-views organize people's efforts to maximize coherence. This emphasis on the crucial role of chronic self-views in organizing efforts to attain coherence distinguishes self-verification theory from consistency theories such as cognitive dissonance. Self-verification involves efforts to bring actual or perceived social reality into harmony with longstanding beliefs about the self rather than maximizing the logical or psychological consistency of relevant cognitions present in the immediate situation.

This desire for stable self-views can be understood by considering how and why people develop self-views in the first place. Theorists have long assumed that people form their self-views by observing how others treat them (e.g., Mead 1934). People become increasingly certain of these views as they acquire more and more evidence to support them. Once firmly held, self-views enable people to make predictions about their worlds and guide their behavior, while they

maintain a sense of continuity, place, and coherence. In this way, stable self-views not only serve a pragmatic function of stabilizing social relations but also serve an epistemic function of affirming people's sense that things are as they should be. Indeed, firmly held self-views serve as the centerpiece of an individual's knowledge system. As such, when people strive for self-verification, the viability of that system hangs in the balance. It is thus unsurprising that by mid-childhood, children begin to display a preference for evaluations that confirm and stabilize their self-views (e.g., Cassidy et al. 2003). Indeed, when adults provide inflated praise to children with low self-esteem, it can backfire by lowering these children's self-worth in the face of setbacks (Brummelman et al. 2016).

If stable self-views are essential to human functioning, those who are deprived of them should be seriously impaired. Evidence supports this proposition. Consider a case study reported by the neurologist Oliver Sacks (1985). Due to chronic alcohol abuse, patient William Thompson suffered from memory loss so profound that he forgot who he was. Thompson desperately attempted to recover his previous identity. For instance, he sometimes developed hypotheses about who he was and then tested these hypotheses on those who happened to be present. Thompson was doomed to enact such tests repeatedly for the remainder of his life. His case not only shows that stable self-views are essential to psychological well-being, but also that self-views are essential to guiding action. Plagued by a sense of self that kept disappearing, Thompson did not know how to act toward people. In a very real sense, his inability to obtain self-verification deprived him of his capacity to have meaningful interactions with the people around him. No wonder, then, that people enact numerous strategies designed to elicit support for their self-views.

The Process of Self-Verification

People may use three distinct processes to create self-verifying social worlds. First, people may construct self-verifying "opportunity structures,"

i.e., social environments that satisfy their needs. They may, for example, seek and enter relationships in which they are apt to experience confirmation of their self-views (e.g., Swann et al. 1989) and leave relationships in which they fail to receive self-verification (Swann et al. 1994).

A second self-verification strategy involves the systematic communication of self-views to others. For example, people may display "identity cues" – highly visible signs and symbols of who they are. Physical appearances are a particularly important type of identity cue. The clothes one wears, for instance, can advertise numerous self-views, including one's political leanings, income level, religious convictions, and so on (e.g., Gosling 2008).

People may also communicate their identities to others through their actions. Depressed college students, for example, were more likely to solicit unfavorable feedback from their roommates than were non-depressed students (Swann et al. 1992a). Doing so, moreover, actually elicited negative evaluations. That is, the more unfavorable feedback they solicited in the middle of the semester, the more their roommates derogated them and convinced them to make plans to find another roommate at the end of the semester.

And what if people's efforts to obtain self-verifying evaluations fail? Even then, people may still cling to their self-views through yet another strategy of self-verification – "seeing" nonexistent evidence. Self-views may guide at least three stages of information processing: attention, recall, and interpretation. For example, an investigation of selective attention revealed that participants with positive self-views spent longer examining evaluations they expected to be positive, and people with negative self-views spent longer scrutinizing evaluations they expected to be negative (Swann and Read 1981). Participants in a follow-up study displayed signs of selective recall. In particular, participants who perceived themselves positively remembered more positive than negative statements, and those who perceived themselves negatively remembered more negative than positive statements. Finally, numerous investigations have shown that people tend to

interpret information in ways that reinforce their self-views. People with low self-esteem perceive their partners' feelings toward them as being more negative than they actually are (e.g., Murray et al. 2000). Together, attentional, encoding, retrieval, and interpretational processes may stabilize people's self-views by allowing them to "see" their worlds as offering more confirmation for their self-views than actually exists. These strategies therefore represent a special case of the tendency for expectancies to channel information processing.

Generality of Self-Verification Effects

Researchers have replicated the basic self-verification effect (i.e., people with negative self-views preferred and sought negative over positive evaluations) dozens of times. Just as people with positive self-views preferred to interact with a positive evaluator, people with negative self-views preferred to interact with someone who evaluated them negatively. Further, people with negative self-views seem to be truly drawn to self-verifying interaction partners rather than simply avoiding non-verifying ones. For example, when given the option of being in a different experiment, people with negative self-views chose to interact with a negative evaluator over participating in another experiment. Similarly, they chose being in a different experiment over interacting with a positive evaluator (Swann et al. 1992b).

Both men and women self-verify and do so regardless of whether self-views refer to qualities that are easily changed and regardless of whether the qualities in question are specific (intelligence, sociability, dominance) or global (self-esteem, depression). People are particularly likely to seek self-verifying evaluations if their self-views are confidently held, important, or extreme.

People with negative self-views display a clear tendency to seek and embrace negative rather than positive romantic partners. Although the early demonstrations of self-verification strivings were conducted in the laboratory, later field studies showed a parallel pattern. The first study in this series was designed to compare how people with positive self-views and negative self-views react

to marital partners whose appraisals differed from theirs in positivity (Swann et al. 1994). The investigators recruited married couples who were either shopping at a local mall or horseback riding at a ranch. The researchers approached potential participants and invited them to complete a series of questionnaires. They began with the Self-Attributes Questionnaire, a measure that focused on five attributes that most Americans regard as important: intelligence, social skills, physical attractiveness, athletic ability, and artistic ability. Then participants completed it again. This time, however, they rated their spouse. Finally, husbands and wives completed a measure of their commitment to the relationship. While each person completed these questionnaires, his or her spouse completed the same ones. The researchers thus had indices of what each participant thought of themselves, what their spouses thought of them, and how committed they were to the relationship.

How did people react to positive or negative evaluations from their spouses? People with positive self-views responded in the intuitively obvious way – the more favorable their spouses were, the more committed they were to their relationship. By contrast, people with negative self-views displayed the opposite reaction; the more favorable their spouses were, the *less* committed they were. Those with moderate self-views were most committed to spouses who appraised them moderately. Subsequent researchers have attempted to replicate this effect, and although the strength of the effect has varied, a number of studies reveal evidence that people prefer self-verifying spouses, even if their self-views are negative.

The Personal and Social Psychological Utility of Self-Verification

There is growing evidence that self-verification strivings predict a variety of important outcomes. These outcomes occur at several levels, including the individual, interpersonal, and societal level of analysis.

Individual Outcomes

For the roughly 70% of people who have positive self-views (e.g., Diener and Diener 1995), the

case for the personal adaptiveness of self-verification strivings is clear and compelling. Self-verification strivings bring stability to people's lives, rendering their experiences more coherent, orderly, and comprehensible than they would be otherwise. Success in acquiring self-verifying evaluations may bring with it important psychological benefits. For example, insofar as people's partners are self-verifying, their relationships will be more predictable and manageable. Such predictability and manageability may not only enable people to achieve their relationship goals (e.g., raising children, coordinating careers), it may also be psychologically comforting and anxiety reducing.

For people with negative self-views, however, the fruits of self-verification strivings are adaptive in some instances but not in others. When such views accurately reflect immutable personal limitations (e.g., lack of height), seeking verification for negative self-views will be adaptive. In such instances, seeking and receiving self-verifying evaluations will satisfy the individual's need for coherence and make him or her feel understood. When negative self-views are not grounded in reality, however, self-verification strivings may lead people with lots of positive qualities to needlessly stay in unhealthy relationships that verify their negative self-views. Moreover, individuals with inappropriately negative self-views are more receptive to social support that validates their negative feelings and less receptive to social support that could "rescue" them – for example, feedback that reframes the situation in a positive way (Marigold et al. 2014).

Interpersonal Outcomes

Groups may also benefit from self-verification strivings. Self-verification helps people feel understood, and feeling understood in turn makes people feel more connected to the group. In fact, research indicates that when members of small groups receive self-verification, for either positive or negative self-views, their creative performance improves, and this is partially mediated by feelings of connection with other group members (Swann et al. 2003). Presumably, when self-verification reigns within groups, knowing that

others were predictable and reliable made people more comfortable with one another, and this laid the groundwork for superior performance.

Self-verification processes seem to be especially useful in small groups composed of people from diverse backgrounds. That is, out of a fear that they will be misunderstood, members of diverse groups may often be careful to avoid expressing controversial ideas. Self-verification may reduce such fear by convincing them that they *are* understood. For this reason, they may open up to their co-workers. Such openness may, in turn, lead them to express off-beat ideas that lead to problem-solving. Performance may benefit (Swann et al. 2004). Evidence also suggests that verifying feedback (negative feedback for those with low self-esteem and positive feedback for those with high self-esteem) can even improve creativity.

In addition, eliciting negative but self-verifying evaluations may help to keep anxiety at bay. For example, one set of investigators (Wood et al. 2005) contrasted the reactions of high and low self-esteem participants to success. Whereas high self-esteem persons reacted quite favorably to success, low self-esteem participants reported being anxious and concerned, apparently because they found success to be surprising and unsettling. Similarly, others (Ayduk et al. 2013) observed participants' cardiovascular responses to positive and negative evaluations. When people with negative self-views received positive feedback, they were physiologically "threatened" (distressed and avoidant). In contrast, when they received negative feedback, participants with negative self-views were physiologically "challenged" or "galvanized" (i.e., cardiovascularly aroused but in a manner associated with approach motivation). The opposite pattern emerged for people with positive self-views.

Societal Outcomes

Self-verification processes are also adaptive for groups and the larger society. For example, self-verification can help eradicate social stereotypes. In small groups, those who offer other group members self-verification are more likely to individuate them – recognize them as unique

individuals rather than as exemplars of social stereotypes (Swann et al. 2003). Over time, such treatment could influence targets and perceivers alike. Targets who are treated as unique individuals will be encouraged to develop qualities that reflect their idiosyncratic competences and capacities. At the same time, perceivers who individuate other group members may begin to question their social stereotypes.

There is also evidence that self-verification strivings may play a role in extreme behaviors committed on behalf of a group. In a recent series of studies, investigators identified a group of people whose personal identities were “fused” with a group identity (Swann et al. 2009). Because the personal and social self are functionally equivalent among such individuals, challenging one is tantamount to challenging the other. Consistent with this view, when these individuals had a personal self-view activated by challenging its validity, they displayed compensatory self-verification strivings by reasserting their group identity. Among fused persons, such compensatory activity took the form of increased willingness to perform extraordinary behaviors for the group.

The Dark Side of Self-Verification Processes

In general, self-verification strivings are adaptive and functional, as they foster feelings of coherence, reduce anxiety, improve group functioning and erode social stereotypes (Swann et al. 2000).

Nevertheless, for those who possess inappropriately negative self-views, self-verification may thwart positive change and make their life situations harsher than they would be otherwise.

Self-verification theory’s most provocative prediction is that people should prefer self-confirming evaluations even if the self-view in question is negative. For example, self-verification theory predicts that those who see themselves as disorganized or unintelligent should prefer evidence that others also perceive them as such. It is obvious why people work to maintain some negative self-views. After all, everyone possesses flaws and weaknesses, and it

makes perfect sense to develop and maintain negative self-views that correspond to these flaws and weaknesses. For example, people who lack some ability (as in those who are tone-deaf or color blind) will have numerous reasons for bringing others to recognize their shortcomings.

Self-verification strivings may, however, have deleterious consequences when people develop *inappropriately* negative self-views – that is, self-views that exaggerate or misrepresent their limitations (e.g., believing that one is fat when one is thin or unintelligent when one is bright). But the adaptiveness of self-verification strivings are much less clear when people develop globally negative self-views (e.g., “I am worthless”). Active efforts to maintain such negative self-views by, for example, gravitating toward harsh or abusive partners are surely maladaptive. Once ensconced in such relationships, people who seek therapy for their psychological distress may be unable to benefit from the therapy because returning home to a self-verifying partner may undo the progress that was made in the therapist’s office (Swann and Predmore 1985). And the workplace may offer little solace, for the feelings of worthlessness that plague people with low self-esteem may make them ambivalent about receiving fair treatment, ambivalence that may undercut their propensity to insist that they get what they deserve from their employers (Weisenfeld et al. 2007).

Furthermore, if people with negative self-views are stressed by positive information, over an extended period such information might actually produce debilitation. Empirical support for this possibility comes from several independent investigations. An initial pair of prospective studies (Brown and McGill 1989) compared the impact of positive life events on the health outcomes of people with low versus high self-esteem. Positive life events (e.g., improvement in living conditions, getting good grades) predicted increases in health among high self-esteem participants but decreases in health among people low in self-esteem. It is remarkable that positive life events were apparently so unsettling to people with low self-esteem that their physical health suffered.

Clearly, for those who develop erroneous negative self-views, it is important to take steps to

disrupt the self-verifying cycles in which they are often trapped. More generally, such instances illustrate how the process of self-verification can sometimes have negative consequences even though it is adaptive for most people most of the time.

Boundary Conditions of Self-Verification Processes

Self-enhancement theory is perhaps self-verification theory's strongest rival formulation. It is one of social psychology's earliest theories. By positing a vital and universal human need to view oneself positively, Allport (1937) sowed the seeds for what would develop into a patchwork of loosely related propositions dubbed "self-enhancement theory." Today this theory has received considerable support, including evidence that people are motivated to obtain, maintain, and increase positive self-regard. There are also indications that the desire for self-enhancement is truly fundamental. First, whether one examines people's social judgments, attributions, or overt behaviors, there appears to be a widespread tendency for them to favor themselves over others (Leary 2007). Second, traces of a preference for positivity emerge at a tender age. For example, as early as four and a half months of age, children preferentially orient to voices that have the melodic contours of acceptance (Fernald 1993). Third, among adults, a preference for positive evaluations emerges before other preferences (Swann et al. 1990). In particular, when forced to choose between two evaluators quickly, participants selected the positive evaluator even if they viewed themselves negatively. Only when given time to reflect did participants with negative self-views choose the negative, self-verifying partner.

Yet as potent as the desire for positivity may be, the results summarized earlier in this chapter indicate that self-verification strivings are quite robust. In light of the existence of numerous relevant studies, the most appropriate means of testing the relative merits of self-enhancement versus self-verification approaches was to review all available studies that meet the design criteria specified by the two theories. In a comprehensive meta-analysis (Kwang and Swann 2010), self-verification

strivings were equal to, or stronger than, self-enhancement strivings, pointing to the existence of a more balanced and variegated motive system than one driven purely by self-enhancement.

Perhaps the most parsimonious way of conceptualizing the relationship of self-verification and self-enhancement is to recognize each motive as emerging as part of a sequential process. Immediate responses are more likely to be self-enhancing, while more considered responses are more likely to be self-verifying. This is because self-enhancement strivings require only one step: upon classifying the evaluation, people embrace positive evaluations and reject negative evaluations. In contrast, self-verification strivings logically require at least two steps. After classifying the evaluation, it must be compared to the self-view, for only then can the person discriminate verifying evaluations from non-verifying ones. Depriving people of cognitive resources while they choose an interaction partner should interfere with their ability to access their self-concept (Swann et al. 1990) and block self-verification from unfolding.

New Directions/Extending the Theory

Research on self-verification has been moving in at least four distinct directions. One approach focuses on tradeoffs between self-verification and other motives such as positivity, particularly in close relationships (e.g., Neff and Karney 2005). One fascinating issue here is how people create and sustain idiosyncratic social worlds that are disjunctive with the worlds that they have created outside the relationship (Swann et al. 2002). In particular, how are people able to compartmentalize their identities and navigate between social worlds in which they have negotiated distinctive identities (Swann and Bosson 2008)? And how does self-verification unfold in a world that is not only outside of a given relationship but outside a given lifetime? A new theme that has emerged recently involves the impact of self-verification strivings on how we want to be perceived after we die. For example, a series of studies (Heintzelman et al. 2016) suggest that individuals want to be remembered as they really are when they are no longer with

us. Even when negative qualities of the self were made salient, the majority of participants (61%) preferred to be remembered as they really are.

Another emerging theme has explored how self-verification plays out within and between groups. Cross-cultural studies of self-verification support the universality of self-verification strivings (Seih et al. 2013). Not only is the self-verification motive found among groups around the world, but recent work has also explored how people verify their group identities as well as their personal identities (e.g., Chen et al. 2004). Interestingly, people strive to verify group identities that are negative as well as positive (Gómez et al. 2009). The latter evidence is provocative because it challenges social identity theory's assumption that people maintain positive and distinctive social identities as a means of bolstering their feelings of well-being (Tajfel and Turner 1979). Other work interested in differential self-verification effects based on social identity has compared the self-verification strivings of monoracial and multiracial individuals. Multiracial people may expect less verification of their race-related identities since those identities may be less visibly apparent. As a result, multiracial individuals are more interested in interacting with others who see them as they see themselves (Remedios and Chasteen 2013).

One final current direction of research tackles the problem of improving individuals' self-esteem. This is a particular challenge because self-verification on the part of those with low self-esteem can lead them to seek out negative feedback, which then reinforces that low self-esteem in a cyclical process. It turns out that simple-minded approaches to this problem not only fail to work, they may actually backfire. For example, repeating positive self-affirmations makes people with high self-esteem feel better but actually makes those with low self-esteem feel worse (Wood et al. 2009). This is because messages that are disjunctive with one's experiences and representation of reality are perplexing and unsettling. Such messages are not an effective strategy for raising self-esteem for those who need it most: people with low self-esteem.

A potential solution may be to simultaneously verify a person's perception of themselves (e.g., "I know you have low self-esteem and agree that you may have some negative qualities irrelevant to our relationship") but also encourage the

development of more positive self-views in the future. In addition, reframing compliments from a partner in a more abstract way that encourages the individual with low self-esteem to reflect on the meaning and significance of that compliment is helpful. Such reframing may encourage people with low self-esteem to feel more positively about themselves and their relationships (Marigold et al. 2007).

Conclusion

Self-verification theory has been and continues to be a generative area of research that has helped researchers explore the many ways in which people strive to create around themselves worlds that are coherent with their enduring views of themselves. So powerful is the desire for self-verification that people will sometimes work to confirm self-views that are negative.

Cross-References

- ▶ [Self-Concept Content](#)
- ▶ [Self-Enhancement Bias](#)
- ▶ [Self-Enhancement Motives](#)
- ▶ [Self-Esteem](#)
- ▶ [Social Identity Theory \(SIT\)](#)

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Self-Views

- ▶ [Self-Knowledge](#)

Self-Worth

- ▶ [Self-Compassion](#)

Sellbom, Martin

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Martin Sellbom, Ph.D., is a Professor in Clinical Psychology at the University of Otago in Dunedin, New Zealand. He is best known for his scholarly work on the Minnesota Multiphasic Personality Inventory (MMPI) instruments, psychopathic personality, and dimensional models of personality disorders. He has also conducted research and taught in areas relevant to forensic psychology.

Background and Professional Trajectory

Sellbom was born and raised in Sweden. He was raised by his father, a manager at a factory producing aluminum cans, and his mother, who

worked in office administration. Neither pursued university education and Sellbom was the first in his extended family to obtain any form of tertiary education. His route to academia was somewhat circuitous and generally unplanned. At age 19, he left for the USA to play American football at Tri-State (now Trine) University in Indiana. He selected psychology as an undergraduate major because his football coach told him he had to select one, and it sounded easy; he was there to play football anyways and thought that his ultimate professional end station likely involved being a math and chemistry high school teacher in Sweden. These plans were eventually derailed when he became mentored by criminal justice professor Dr. Duane Dobbert (now at Florida Gulf Coast University), who taught two courses in forensic psychology. For the first time, Sellbom had discovered a professional venture that potentially excited him (i.e., being a practicing forensic psychologist). However, he needed to pursue postgraduate study in order to become a licensed psychologist.

Sellbom eventually enrolled at Ball State University to attain a Masters degree in Clinical Psychology as a stepping stone to prepare for pursuing doctoral study. He worked as a research assistant for Drs. George Gaither, Gary Meunier, and Darrell Butler and was invited to co-author publications based on their various projects. Sellbom also become involved in clinical training and eventually realized that, while forensic psychology practice seemed quite interesting, he was even more excited about scientific pursuits. Dr. Meunier, who served as his research mentor, introduced Sellbom to the MMPI-2 and research into antisocial and borderline personality disorders, which ultimately helped shape his interests.

Sellbom enrolled at Kent State University to pursue his PhD in Clinical Psychology, and he was mentored primarily by Dr. Yossef Ben-Porath, but also secondarily by Dr. John (Jack) Graham. His research became quite focused on applied personality assessment using the MMPI instruments, but he maintained his interests in psychopathy and other personality disorders, publishing occasionally in these areas as well. While a doctoral student, Sellbom was also introduced to eminent scholars

such as Drs. Scott Lilienfeld, Christopher Patrick, and Edelyn Verona who served in mentorship capacities as well, as he pursued psychopathy research. At the end of his doctoral program, Sellbom completed his clinical internship at the Centre for Addiction and Mental Health in Toronto, Canada, where he was supervised by Dr. Michael Bagby (now University of Toronto), with whom he remains in close collaboration.

After graduation, Sellbom returned to Kent State University for a part-time academic and part-time clinical postdoctoral fellowship. For the former, he worked with Drs. Ben-Porath and Graham on MMPI research, including assisting with the final development of the MMPI-2 Restructured Form (Ben-Porath and Tellegen 2008). He also worked part-time as a psychology resident at the Summit County Court Psycho-Diagnostic Clinic. He was supervised by Dr. Kathleen Stafford in forensic psychological evaluations, which was a tremendous training opportunity that has allowed him to continue to conduct such clinical work on the side of his academic job throughout his career.

Sellbom eventually chose the academic route as he had decided that his true professional calling was for research and teaching more so than clinical psychology work. In 2009, he started a job as a tenure-track Assistant Professor in the Department of Psychology at the University of Alabama. During his time at Alabama, his research became heavily focused on psychopathy, in part because he primarily supervised PhD students enrolled in the clinical psychology and law program. He graduated a number of talented students, including Dr. Jaime Anderson (now at Sam Houston State University).

In 2013, Sellbom moved to the Australian National University in Canberra, Australia, mostly because he desired a change in cultural climate and because he was ready for a new life adventure. He worked there as a Senior Lecturer and later Associate Professor for 2.5 years and served as Director of Clinical Training. Because of heavy student interest, as well as the release of the DSM-5 in 2013, his work became more and more focused on personality disorders broadly and considering the best approaches to their conceptualization, assessment, and diagnosis.

Sellbom eventually left the ANU and moved to his current appointment at the University of Otago in Dunedin, New Zealand, in January 2016. He has continued to supervise many honors, Masters, and PhD students in his major areas of interest. In the beginning of 2019, he started his appointment as a full Professor in Clinical Psychology; just over 9 years into his academic career. Sellbom is a registered clinical psychologist in New Zealand and continues to have a small private practice on the side, which is focused on forensic psychological evaluations.

Broad Research Contributions

Most of Sellbom's work has focused on psychopathology structure, personality disorders, and personality measurement. In recent years, he has become heavily involved with the Hierarchical Taxonomy of Psychopathology (HiTOP) consortium (Kotov et al. 2017) and he is currently among the leaders in developing a comprehensive measurement tool to operationalize this perspective. He has also generally contributed to the elaboration of various aspects of psychopathology structure (e.g., Sellbom 2016, 2017a) and in particular, how it integrates with personality (e.g., Sellbom et al. 2008; Tackett et al. 2008).

As mentioned earlier, over the past several years, Sellbom has been a major contributor to the science on the Alternative DSM-5 Model for Personality Disorders published in DSM-5 Section III. This work has focused on both establishing validity for the Section III personality trait model (criterion B for specific PDs), with respect to hierarchical structure, associations with other conceptually relevant personality constructs, and their optimal assessment (e.g., Anderson and Sellbom 2018; Anderson et al. 2015a, b). Sellbom and his students and colleagues have also published a number of studies examining how these traits can optimally represent traditional personality disorder categories, with intermediate goal of highlighting continuity across DSM editions (e.g., Anderson et al. 2014; Sellbom et al. 2014a; Watters et al. *in press*). In addition, they have begun to demonstrate the utility of personality impairment augmenting traits in characterizing pathology

(e.g., Sellbom et al. 2017; Wygant et al. 2016), which is supportive of the controversial DSM-5 AMPD Criterion A. Finally, a significant portion of this work has been devoted to validating these personality constellations in their own right, particularly with respect to psychopathy, borderline PD, and obsessive-compulsive PD (e.g., Liggett and Sellbom 2018; Sellbom et al. 2014; Wygant et al. 2016). These findings are important as future revisions to the DSM PD section are implemented, with the ultimate goal of characterizing patient psychopathology via an empirically supported model.

In terms of psychopathic personality disorder specifically, Sellbom's work has contributed to the literature in several important respects. In addition to widespread evaluation of the self-report assessment of psychopathy (e.g., Christian and Sellbom 2016; Neal and Sellbom 2012; Sellbom 2011; Shou et al. 2017a), he has been heavily involved in generating empirical support for an integrative triarchic conceptualization of psychopathy (Patrick et al. 2009), which considers the disorder according to three dimensional phenotypic domains of boldness, meanness, and disinhibition (e.g., Sellbom and Phillips 2013; Shou et al. 2017b). Indeed, Sellbom published the very first empirical paper on the topic (Sellbom and Phillips 2013), which has been cited over 150 times. In addition, Sellbom and his students have been responsible for one of the very few studies available to examine compensatory variables (e.g., intelligence) in moderating the association between psychopathic personality traits and criminal behavior (Wall et al. 2013). Overall, these findings are impactful with respect to ultimately defining and operationalizing this important but controversial personality disorder.

Finally, Sellbom has been a major contributor to the field of personality assessment, particularly via his work on the MMPI-2-RF (Restructured Form). In an effort to align this new instrument with the contemporary psychopathology literature, his construct validity research on its scales has mapped them onto hierarchical personality and psychopathology models in the extant literature; thus, positioning the instrument to a central role in the empirically validated, clinical assessment of psychopathology constructs (e.g.,

Sellbom 2016, 2017a; Sellbom et al. 2008). In addition, Sellbom has also published a large number of studies that have articulated the applied utility of the MMPI-2-RF in terms of the assessment of personality disorders (e.g., Anderson et al. 2015a, b; Sellbom et al. 2014; Zahn et al. 2017) and psychopathy (e.g., Sellbom et al. 2012, 2016), as well as response bias (e.g., Brown and Sellbom *in press*; Sellbom et al. 2010), forensic and correctional assessment (e.g., Laurinaitytė et al. 2017; Sellbom 2017b), and public safety personal screening (e.g., Sellbom et al. 2007; Corey et al. 2018).

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SEM

- ▶ [Structural Equation Models](#)

Semantic Network

- ▶ [Neural Networks](#)

Semi-structured Interviews

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Synonyms

[Open-ended interview](#); [Qualitative interview](#);
[Systematic exploratory interview](#); [Thematic interview](#)

Definition

The semi-structured interview is an exploratory interview used most often in the social sciences for qualitative research purposes or to gather clinical data. While it generally follows a guide or protocol that is devised prior to the interview and is focused on a core topic to provide a general structure, the semi-structured interview also allows for discovery, with space to follow topical trajectories as the conversation unfolds.

Introduction

Qualitative interviews exist on a continuum, ranging from free-ranging, exploratory discussions to highly structured interviews. On one end is unstructured interviewing, deployed by

approaches such as ethnography, grounded theory, and phenomenology. This style of interview involves a changing protocol that evolves based on participants' responses and will differ from one participant to the next. On the other end of the continuum lies standardized interviews or surveys where each participant responds to the same questions from a highly structured protocol. In the middle falls the hybrid approach of the semi-structured interview, which begins with an interview protocol comprised of open-ended questions that are asked of each participant (Knox and Burkard 2014). A hallmark of the semi-structured interview is the ability of the interviewer to probe and follow different directions as information emerges, including flexibility in the sequence of questions, while maintaining the organizing focus determined beforehand (Hill et al. 2005; Knox and Burkard 2014).

History

The recent shift in the social sciences away from a strict adherence to positivist methodologies and toward recognition of a post-positivist lens has made way for interpretative qualitative approaches like the semi-structured interview. The semi-structured interview is an approach utilized both for qualitative research in the social sciences and as a complement to clinical practice and diagnosis in the field of psychology. As cultural and contextual variables are now more readily recognized as impacting scientific inquiry, post-positivist approaches accept that phenomena being investigated are often complex and do not adhere to a single interpretation. In keeping with this, the semi-structured interview allows for discovery, exploration, and meaning-making so that intricacy and nuance are not overlooked in the investigation. The interview is a reflective dialogue that considers the lived experience of the interviewee (Galletta 2013). It may be used as one component of data collection within a broader inquiry and may also be triangulated with other sources of data so that the topic in question can be well understood.

Ethical Considerations

The interrelated nature of researcher subjectivity and reflexivity and the adequacy of data brings ethical considerations to the fore. Given the integral role that the interviewer plays in conducting the interview and gathering and interpreting the data, investigating one's own epistemologies is an essential starting point for a productive semi-structured interview (Ryan 2006). As such, when devising the interview guide, conducting the interview, and coding or interpreting responses, a concerted and acknowledged effort on the part of the interviewer to explore their personal biases and to bracket their assumptions is imperative for the adequacy of data (Williams and Morrow 2009; Creswell 2007). Using self-reflecting memos and journaling throughout the process can help in exploring and managing personal biases (Rennie 2004). This helps create the conditions for the interview to be discovery-oriented rather than confirmatory and to be less influenced by the interviewer (Elliott et al. 1999).

An ethical imperative lies in acknowledging reflexivity, where the interviewer searches for interference that may impact the interview, explores what that interference is and what it may represent, and documents those factors through various efforts (Galletta 2013). Reflexivity demands vigilance on the part of the interviewer. The conversational quality of the semi-structured interview requires the interviewer be attentive to walking the treacherous line between the interviewer and therapist while remaining in the role of responsive interviewer throughout (Haverkamp 2005). During the process of the interview, ethical guidelines demand competence in the amount of information that the interviewer collects, such that gathering unnecessary, extraneous information must be avoided (Gibbs et al. 2007).

What Is a Semi-structured Interview?

Semi-structured interviews are flexible and versatile, making them a popular choice for collecting qualitative data (Kallio et al. 2016). They are a conversation in which the researcher knows what

she/he wants to cover and has a set of questions and a foundation of knowledge to help guide the exchange (Fylan 2005). The goal is to create a safe space in which the participant feels comfortable to reflect upon his or her own personal experiences (Fylan 2005), providing the researcher an in-depth understanding of a particular area of interest (Polit and Beck 2010a). This requires the researcher to allow for reciprocity with the participant (Galletta 2013), achieved through open-ended questions and improvised follow-up questions (Kallio et al. 2016; Polit and Beck 2010b).

In contrast to a structured interview in which questions are administered in a particular order and consistent across participants, the flow of the semi-structured interview is likely to vary in order and in content depending on the participant's responses. That said, while not every question will be relevant for each participant, the questions embedded within the semi-structured interview are determined beforehand and formulated using a guide (Rubin and Rubin 2005; Kallio et al. 2016). Therefore, several steps need be taken before the interview is conducted.

Understanding the Interview

While a semi-structured interview approach can produce a variety of rich and complex data, an interviewer may become overwhelmed or distracted by the material if unprepared. In order to focus the scope of the interview to produce manageable data, the researcher should come equipped with a solid foundation of the current literature surrounding the research question and a theoretical understanding of qualitative data collection (Fylan 2005). However, an important balance must be struck in exposure to the literature or phenomena being explored with an alert openness to new possibilities for understanding during the interview, so that the interviewer does not seek to confirm already existing beliefs and avoids a priori assumptions. This preparatory phase is considered the first step to creating an effective semi-structured interview and ultimately informs the subsequent step of formulating an interview guide.

Formulating the Interview Guide

An interview guide is a list of questions (Whiting 2008) that directs the interview toward the central research topic (Kraus et al. 2009). The interview guide should be loose and flexible (Dearnley 2005), allowing for dialogue to emerge between the interviewer and the interviewee (Whiting 2008). Questions should be clearly worded and concise, not leading, and generally presented in an open-ended format (Turner 2010; Kallio et al. 2016). Questions may begin with the least-sensitive material and move toward the more sensitive; the interview should use language comfortable and familiar to the interviewee. The interview guide should undergo a pilot testing phase once an initial version has been created. This provides the interviewer the opportunity to improve the interview by clarifying questions, removing ambiguities or leading statements, and identifying potential interview biases (Kallio et al. 2016). This insight will improve both the quality of the interview implementation and the data it produces. Once the interview guide is field-tested and modified accordingly, the interview process can commence. Ultimately, how the interview is implemented and analyzed is highly influenced by the quality of the interview guide, highlighting the importance of this step in the process.

Conducting the Interview and Building Rapport

There are several stages of the interview process that need to be considered in tandem with stages of rapport building inherent to any interview. Interviews begin with introductions, presentation of the research topic, and securing informed consent (Baumbusch 2010). This first phase coincides with the initial stage of rapport building referred to as the *apprehension phase* (Whiting 2008; DiCicco-Bloom and Crabtree 2006). Marked with hesitation (Whiting 2008), the participant has the opportunity to ask questions about the research and purpose of the study as the researcher works to provide comfort and create a safe and open environment (DiCicco-Bloom and Crabtree

2006). With the consent of the interviewee, the interview can be audiotaped and transcribed. When used clinically, this can help the interviewer review responses made over the course of the interview. When used for research purposes, the transcript can be used for coding of themes that emerged.

As the interview progresses, the second stage introduces more in-depth questions, while rapport is still being established (Whiting 2008; DiCicco-Bloom and Crabtree 2006). During the third stage, even more challenging questions are introduced potentially eliciting more emotional responses. Meanwhile, rapport building will progress to the *exploration phase* during which the interviewer uses probes to gain further insight into the interviewee's experiences (Whiting 2008). This is followed by the *cooperation phase* when a level of comfort has been achieved between the interviewer and the participant that allows for a more free and open dialogue to emerge (Whiting 2008). During this stage, the interview guide is particularly helpful in preventing the interview from devolving into a casual conversation. In some cases, the *participation phase* of rapport building may be reached, reflecting the most developed level of rapport. During this stage, the interviewee takes the lead and guides the interviewer through his experiences with ease (DiCicco-Bloom and Crabtree 2006; Whiting 2008). This phase is often brief and not always reached depending on the length of the interview and the skill of the interviewer.

Concluding the Interview

By the fourth stage of the interview process, rapport has been readily established, and the researcher should shift to less emotional questions as the interview tapers to its conclusion. This may result in a more practical and fact-based discussion (Baumbusch 2010); however, the researcher should be mindful that this phase may elicit additional emotional responses that should be handled with care. The fifth and final phase, concluding the interview, strives for a balance between a more affable tone and expressions of appreciation

for the interviewee's time (Baumbusch 2010; Rubin and Rubin 2005) with structured questions directed toward closure (Galletta 2013). It also gives space for the participant to add any final thoughts and reflections that may inform the interviewer on how to amend the interview guide for future interviews. When appropriate, the interviewer may offer the interviewee access to the findings after the entirety of the study is complete. Depending on how the interview is being used – for research or clinical purposes – some research methodologies suggest allowing the participant to review the interview transcript and to collaborate on the meaning that is ascribed to responses.

Reviewing and Processing the Interview Data

When developing a semi-structured interview, it is important to consider the validity and reliability of the instrument. For research, inter-rater reliability is particularly important for the coding process to ensure that data is accurately represented for analysis. In a clinical setting, inter-rater reliability between clinical interviews and assessment tools is already low, especially when working with children (McTate and Leffler 2017; Galanter and Patel 2005). As such, by creating questions based around diagnostic criteria as part of the interview guide, the additional structure helps combat discrepancies and increases consistency in identifying symptomatology across interviewers (Galanter and Patel 2005).

Moreover, if audiotaped and transcribed, the interview transcript can be used for later analysis and, if conducting research, for coding based on the specific qualitative research paradigm in use.

Clinical Application for Individual and Personality Differences

The semi-structured interview approach to data collection has wide application beyond qualitative research. The versatility, open-ended format, and level of rapport development inherent to

the semi-structured interview process can be operationalized for differential diagnosis and ultimately can be applied in a variety of clinical settings. It is a useful tool to enhance the accuracy and expediency of clinical information gathering. Notably, the interview can be used to achieve a more in-depth understanding of individual differences and personality functioning in children, adolescents, and adults.

One example of its use with children is in assessing for mood disorders – a complex task due to often overlapping symptoms across diagnoses (McTate and Leffler 2017). As such, structured interview questions can be used as a guide during the semi-structured interview process (McTate and Leffler 2017). For example, the Schedule for Affective Disorders and Schizophrenia for School-Aged Children – Present and Lifetime Version (Kaufman et al. 1997) – is designed to assess current and past episodes of psychopathology across a variety of disorders in children. It provides a guide and a series of probes rooted in diagnostic criteria that can be tailored depending on the child's responses. This allows the interviewer to use the patient's own words when reflecting back probative questions as specific diagnostic criteria are explored and clarified. This integration of the structured and semi-structured interview styles provides a comprehensive approach for differential diagnoses of mood disorders in children (McTate and Leffler 2017).

With adolescents, the semi-structured interview can help gather, explore, and clarify feelings, thoughts, and reactions in a safe and non-threatening manner. For instance, the Interview of Personality Organization in Adolescence utilizes semi-structured interviewing to identify stages of personality functioning across several domains, identity, quality of peer relations, affect regulation, and moral development (Clarkin et al. 2015), at three developmental stages, helping to identify areas of personality development in need of intervention. This instrument focuses on the developmental process rather than personality structure, which can be useful to inform treatment planning for adolescents.

With adults, there are many examples of the application of semi-structured interviews as

a diagnostic tool. One such example is the Semi-structured Interview for Personality Function (Hutsebaut et al. 2017) which utilizes the open-ended approach inherent to semi-structured interviewing and applies a “funnel strategy” to hone in on specific personality traits. Follow-up questions are used to narrow down levels of impairment, resulting in an overall score that reflects a level of personality functioning. Similarly, the Diagnostic Interview for ADHD in Adults (Ramos-Quiroga et al. 2016) uses a series of dichotomous questions, and when specific items are endorsed, open-ended follow-up questions are used to identify the presence or absence and duration of diagnostic symptoms as well as the level of interference these symptoms have on daily functioning. A similar approach of combining the format of a semi-structured interview with the addition of more structured criteria has been applied for proper diagnosis of eating disorders (Cooper and Fairburn 1987) and drug dependence and alcoholism (Pierucci-Lagha et al. 2007). Additionally, semi-structured interviews are considered especially helpful for appropriate diagnosing of borderline personality disorder (Glenn et al. 2009).

Conclusion

Semi-structured interviews provide a platform for a collaborative exchange in which information can be elicited quickly and effectively. It serves equally well either as a means of gathering data for research or as a clinical tool for exploring individual differences and personality functioning for people at all ages. While the more classic definition of the semi-structured interview aims to identify new themes while having the participant share his or her own personal experiences in the moment, when applied in a clinical setting, the scope is more focused. Here, follow-up questions can be asked to clarify or elicit specific information to determine the presence or absence of diagnostic criteria. In this way, semi-structured interviewing provides a useful tool for differential diagnosis and for understanding individual differences.

Cross-References

- ▶ Interviews
- ▶ Revised Diagnostic Interview for Borderlines

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Sensation Seeking

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Synonyms

[Excitement seeking](#); [Novelty seeking](#)

Definition

Sensation seeking is defined as “the need for varied, novel, and complex sensations and experiences and the willingness to take physical and social risks for the sake of such experiences” (Zuckerman 1979, p. 10).

Introduction

Research on sensation seeking has historically been based on the hypothesis that individuals have different optimal levels of stimulation

(Zuckerman 1979). Individuals high in sensation seeking are posited to be chronically underaroused, as such they seek additional stimulation to maintain or attain optimal levels of arousal through pursuit of varied and novel sensations. Individuals high on this trait may find a wide variety of different activities to fulfill their need for excitement and novelty; therefore, this trait is related to a wide array of adaptive, neutral, and maladaptive outcomes which will be reviewed in this section.

The bulk of the research regarding this trait has used the Sensation Seeking Scale (SSS; Zuckerman et al. 1964), which includes the four moderately interrelated subfactors of thrill and adventure seeking, experience seeking, disinhibition, and boredom susceptibility. Sensation seeking is included in several different models of personality, including the most widely used framework of personality in contemporary research, the five-factor model (Costa and McCrae 1992). The five-factor model conceptualizes personality as a hierarchical set of traits consisting of five higher-order domains each comprised of six underlying facets. Within this model, sensation seeking is included as a facet-level trait under the broader domain of extraversion, defined as “sociability, activity, and the tendency to experience positive emotions such as joy and pleasure” (Costa and McCrae 1992, p. 5).

Advances in measurement and personality theory have aided the development of research on sensation seeking. This research has produced a clear set of findings relevant to understanding this personality trait. For example, research demonstrates demographic differences in sensation seeking, such that men generally demonstrate higher scores on sensation seeking scales compared to women (Costa and McCrae 1992). Additionally, sensation seeking appears to increase from ages 10 to 15 and decline after age 15 (Steinberg et al. 2008), suggesting that this trait decreases over the life span. Empirical evidence provides support for the biological basis of this trait, as demonstrated via genetic, biochemical, physiological, and neurobiological studies. For instance, sensation seeking is moderately heritable, with heritability estimates for the sensation seeking

subscales ranging from .29 to .65 for women and .34 to .60 for men (Stoel et al. 2006). Moreover, evidence suggests that sensation seeking is associated with genetic differences at specific dopamine receptors (D2 and D4; Derringer et al. 2010), providing neurobiological evidence that this trait is related to biological processes related to reward-motivated behavior and regulation of stimulation.

Consistent with theory suggesting that individuals high on sensation seeking may seek a variety of different activities or experiences in order to fulfill their need for novelty and excitement (Zuckerman 1979), empirical evidence suggests that sensation seeking has a wide variety of correlates, including adaptive, neutral, and maladaptive outcomes. Prosocial outcomes related to sensation seeking include a positive relation with political participation (Kam 2012) and with voluntary enlistment in the armed forces (Bray et al. 2008). Sensation seeking is also related to neutral outcomes, including differences in artistic preference such as experiencing greater appreciation of humor lacking in resolution (Carretero-Dios and Ruch 2010). Moderate levels of sensation seeking are associated with competitive sports, and high levels of sensation seeking are associated with extreme sports, such as skydiving or white-water rafting (e.g., Gomà-i-Freixanet 1995).

Sensation seeking demonstrates associations with multiple maladaptive outcomes. Meta-analytic evidence suggests that sensation seeking demonstrates a small positive effect with regard to risky sexual behaviors (Hoyle et al. 2000). Specifically, sensation seeking was positively associated with all risky sexual outcomes measured, including number of partners, unprotected sex, engaging in high-risk sexual encounters, and overall sexual risk taking. Sensation seeking also demonstrates a moderate positive relation with risky driving behavior (Jonah 1997), such as driving at speeds significantly above the legal limit or driving while under the influence of alcohol or substances. A meta-analysis of studies that have investigated sensation seeking and alcohol use across

different types of samples, including clinical, college, adolescent, and community samples found that sensation seeking demonstrates a small to moderate effect size with regard to alcohol use outcomes such as frequency of drinking, binge drinking, and problem drinking ($r = .26$; Hittner and Swickert 2006). Notably, this data also suggests that moderators exist between sensation seeking and pathological alcohol use, as this trait was more strongly related with alcohol use among Caucasians compared to African-Americans (Hittner and Swickert 2006). This led authors to suggest that sociocultural influences may impact the relationship between trait sensation seeking and engagement in problematic behaviors such as alcohol misuse. Sensation seeking also demonstrates a medium to strong effect size with drug use across many studies (Roberti 2004). However, it is notable that the effects between sensation seeking and maladaptive outcomes are often relatively small and at times are inconsistent.

Conclusion

Sensation seeking represents individual differences in one's tendency to pursue or avoid varied and novel situations or sensations. Research suggests that this trait is moderately heritable and linked to reward-based neurobiological pathways and that it likely peaks in adolescence and decreases over the life span. Sensation seeking demonstrates a complex nomological network in that it is related to many outcomes spanning a continuum whose range includes maladaptive, neutral, and prosocial behaviors suggesting that individuals high on trait sensation seeking may find very different activities or situations in order to satisfy their need for excitement and novelty. Finally, these findings suggest that the form by which sensation seeking manifests in an individual likely depends on the individual's other personality traits, which could impact what specific novel or complex experiences are selected or performed.

Cross-References

- ▶ [NEO Inventories](#)
- ▶ [Novelty Seeking](#)
- ▶ [Sensation Seeking Scale](#)
- ▶ [UPPS Model of Impulsivity](#)

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Sensation Seeking Scale

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Synonyms

SSS-V (Form 5)

Definition

The Sensation Seeking Scale is a dispositional measure designed to assess individual differences in “the seeking of varied, novel, complex and intense sensations and experiences” (Zuckerman 1994, p. 27). After its appearance in the mid-1960s, the measure underwent considerable development, and the current iteration, Form 5 (SSS-V; Zuckerman et al. 1978), has been the standard for assessing the construct for nearly four decades.

Introduction

Research on the effects of sensory deprivation in the late 1940s revealed notable individual differences in the ability to tolerate the procedures and in the extent to which participants would seek out sources of stimulation available in the stimulus-restricted environment. A number of theorists concluded that individuals differ in their preferred levels of stimulation and arousal. The SSS was developed by Marvin Zuckerman and coworkers to predict individual differences in response to sensory deprivation. It consisted of a unidimensional scale containing self-report items reflecting a positive reaction to or a tendency to seek out exciting, stimulating, risky, and novel experiences.

Though originally considered a unitary construct, factor analyses indicated that the SSS is multidimensional, reflecting a multifaceted construct. In subsequent versions leading up to Form V, factor analyses of the items resulted in the development of subscales that reflect different facets of sensation seeking.

Description

SSS-V consists of 40 forced-choice items organized into four 10-item subscales. Each forced-choice item contains a statement indicative of high sensation seeking and one indicative of low sensation seeking (e.g., “I often wish I could be a mountain climber” versus “I can’t understand people who risk their necks climbing mountains”). The score is the total number of high-sensation alternatives chosen. The forced choice format was adopted in an attempt to reduce the influence of social desirability response set shown on an earlier Likert format but at the cost of information on the extent to which participants agree or disagree with the items and a reduction in the possible range of scores.

The four subscales have been replicated in many studies involving a variety of populations and appear relatively stable (Zuckerman 2007). The *Thrill and Adventure Seeking (TAS)* subscale reflects a desire to engage in thrill-seeking, adventurous, or risky pursuits, such as sky or scuba diving, parachute jumping, sailing long distances in a small craft, and skiing very fast down a steep mountain slope, and it correlates most highly with the total score. The *Experience Seeking (ES)* scale contains items involving the adoption of an unconventional life style, traveling to strange and distant places with no preplanned routes, preferring modern paintings with clashing colors and irregular shapes, and seeking new friends from “far-out” groups. The *Disinhibition (Dis)* scale reflects an orientation toward impulsive social and sexual behaviors as expressed in wild parties and exciting experiences and sensations “even if they are a little unconventional or illegal” and having a variety of sexual partners and practices. *Boredom Susceptibility (BS)* represents an

aversion to repetition, routine, and unexciting people, together with restlessness in the face of relaxing situations or inactivity. The 40 items can be combined into a total score that serves as a general index of sensation seeking. Most studies utilize both the subscale and total scores.

Psychometric Properties: Reliability

The SSS-V items reflect a wide variety of content, including preferences, behavior reports, expressed desires, and some illegal behaviors. This diverse content not only creates multidimensionality but also affects internal consistency reliability. Across the entire scale, low interitem correlations averaging around .10 were observed in a large-scale survey of SSS-V studies (Sharma et al. 2014). Since coefficient alpha is markedly influenced by the number of items, an acceptable level of internal consistency exceeding .80 is typically observed for the 40-item total score even with these low interitem correlations. The 10-item TAS subscale exhibits a similar level of reliability because its items intercorrelate more highly at about .30. In contrast, lower alpha coefficients (averaging between .55 and .65) have been observed for the ES, Dis, and BS scales (Sharma et al. 2014). Although item factor loadings were generally acceptable in the original derivation of the SSS-V subscales (Zuckerman et al. 1978), the content diversity within these subscales and their resulting marginal reliability in subsequent studies has been a frequent criticism of the ES, Dis, and BS subscales (e.g., Gray and Wilson 2007). In contrast to internal consistency reliability issues, test-retest reliability (.94 over 2 months for the total score) indicates that the scale is measuring a stable dispositional variable (Zuckerman 1994).

Construct Validity: Correlates of the SSS-V

Though originally developed to assess individual differences in response to sensory deprivation, the clear relevance of sensation seeking to other meaningful behaviors and situations soon

widened its range of application. Many hundreds of studies relating the SSS-V to numerous behavioral domains have been published. For the most part, the hypotheses tested in these many studies are based on the notion that scores reflect underlying differences in the levels of stimulation and/or arousal at which people are most comfortable and that they are most likely to seek out. Though viewed as a biosocial variable that is influenced by environmental factors, these differences are also assumed to reflect underlying biological differences, an assumption supported by findings of high heritability coefficients in twin studies, as well as theoretically consistent biochemical and neurotransmitter differences (Roberti 2004; Zuckerman 1994).

We briefly summarize the most frequently reported correlates of SSS-V scores. It should be noted that results tend to be more consistent for the total score than for the subscales, although the latter often exhibit better convergent and discriminant validity with criterion behaviors. Comprehensive reviews of these correlates are presented in Zuckerman (1994, 2007), Roberti (2004), and Liebe and Roth (2013).

Age and Gender

In cross-sectional studies, total scores exhibit a consistent decline from adolescence and early adulthood to age 60 for both men and women, with TAS and Dis showing the sharpest declines and BS the smallest. Gender differences are also consistent, with females consistently scoring lower than males on all scales (Zuckerman 1994, 2007; Zuckerman et al. 1978).

Stimulus Seeking

In the original sensory deprivation studies, high sensation seekers found restricted stimulation to be far more unpleasant than did low SSS scorers. For example, even if not interested in the stock market, they would repetitively read boring stock reports in order to increase ambient stimulation (Zuckerman 1994).

Subsequent research has shown that high sensation seekers show a marked inclination to gravitate toward situations and activities that provide novelty, excitement, and stimulus intensity,

whereas low scorers are inclined to protect themselves from excessive stimulation. Thus, high sensation seeking is associated with attraction to activities like skydiving, surf boarding, mountain climbing, and to stimulating occupations like riot policing, war-zone journalism, and emergency-room duty, whereas low sensation seekers prefer more sedate and routine occupations, such as teaching and accounting, and express less interest in changing occupations or other life circumstances. High scorers like movies with explicit sexual scenes, loud explosions, and graphic violence. Undergraduate college students with high SSS scores are more likely to volunteer for unusual psychology experiments (ESP, hypnosis, drugs) than for studies of memory, learning, or sleep. They also become sexually active at a younger age, have a larger number of sexual partners, and engage in a greater variety of sex acts (Roberti 2004; Zuckerman 1994).

Risk-Taking

High sensation seekers are more likely to engage in risky and exciting behaviors. In gambling situations, they make riskier bets, and in automobile driving, they drive at higher speeds, more aggressively, and with less care for personal safety (Zuckerman 2007). Among the subscales, TAS and ES exhibit the highest correlations with such behaviors. Finally, high scorers tend to be more impulsive overall, more unconventional, and more likely to engage in illegal behaviors. However, Zuckerman believes that impulsiveness and sensation seeking are overlapping but distinct constructs and has developed an Impulsive Sensation Seeking Scale (ImpSS) that has separate impulsivity and sensation seeking subscales to capture variations and different combinations of the two constructs (Zuckerman et al. 1993).

Substance Use and Abuse

The early years of research on substance use and abuse were guided by the OLA-derived hypothesis that in order to maintain an optimal level of arousal, high sensation seekers would prefer “uppers” and low sensation seekers “downers.” It became apparent over time that sensation seeking influences the tendency to experiment with

virtually any type of drug. The critical facets in the greater substance use in high SSS people seem to be captured in the ES and Dis scales, suggesting that they have a strong desire not only for novel experiences but also for increased enjoyment of disinhibited states (Zuckerman 2007).

Although high sensation seekers are more likely to initiate drug use at an earlier age, the trajectory of their use is similar to the typical trajectory experienced by other substance users (Zuckerman 2007). In general, they move from milder drugs (e.g., marijuana) to more potent drugs, such as amphetamines and heroin over time.

Emotionality

Behaviors of high and low sensation seekers have been linked to two biobehavioral systems, the behavioral activation system (BAS) and the behavioral inhibition system (BIS). BAS is reward oriented and features approach behaviors intended to increase positive reinforcement and positive affect, whereas BIS is an avoidance-oriented system that is designed to avoid or reduce negative affect. High sensation seekers are thought to have a lower than optimal baseline level of arousal, coupled with an overactive BAS, together with an underactive BIS (Roberti 2004). These biological differences create behavioral tendencies designed to increase stimulation and produce positive affect, including excitement and euphoria (Liebe and Roth 2013). In support of this formulation, fMRI studies show that exposure to intense stimulation produces responses in brain areas linked to reward and positive affect in high sensation seekers, whereas low sensation seekers exhibit relatively higher activation in brain regions involved in regulating and dampening emotions (Joseph et al. 2009). In terms of emotionality, the low sensation seeking pattern of undersensitivity of the BAS is associated with depression, and oversensitivity of the BIS is associated with anxiety. In contrast, high sensation seeking (and particularly the DIS subscale) is related to impulsive behavior and to expressions of frustration and anger. These associations are consistent with the fact that in terms of psychopathology, low sensation seeking is most often associated with anxiety and depressive disorders and

high sensation seeking with reward-oriented psychopathy and with bipolar disorder (Liebe and Roth 2013).

Stressful Life Events: Buffering and Evocative Effects

It has been suggested that the ability of high sensation seekers to tolerate (and even seek out) arousing situations and change might serve as a protective factor against negative life events, whereas low sensation seeking may be a vulnerability factor. Consistent with this hypothesis, several studies have found no relation between negative life events and psychological distress in high sensation seekers but significant positive correlations in low sensation seekers (e.g., Smith et al. 1978). A prospective study involving high school athletes revealed significant relations between sport-related negative life events and subsequent athletic injuries in low sensation seekers but not in high sensation seekers (Smith et al. 1992).

However, high sensation seeking may be a two-edged sword in relation to life stress, having an evocative as well as buffering effect. The tendency of high scorers to seek out excitement, respond impulsively to short-term reward, engage in unconventional and even illegal behaviors, and take physical, social, and financial risks may create significant negative life consequences (Zuckerman 2007). Consistent with an evocative hypothesis, high sensation seekers report encountering more psychosocial stressors than do low sensation seekers (Cohen 1982). It is possible, however, that an ability of high sensation seekers to tolerate resulting negative affect may in the end help buffer the impact of evoked negative events, whereas low sensation seekers, though evoking fewer negative events, may experience more anxiety and depression in the face of those they do encounter.

Conclusions

The SSS-V has helped create a voluminous literature on sensation seeking, and it continues to be by far the most frequently used measure of this construct. However, it has been criticized on a number of counts, including marginal reliability of some of

its subscales that can reduce validity coefficients and produce inconsistent patterns of results. Another issue is the content of its items, many of which are behavioral in nature. This can confound and conflate relationships with self-report criterion variables that contain similar items or involve similar behaviors. The latter concern has resulted in several alternative scales that reflect a stated need or desire for novelty and intensity of stimulation, rather than items involving behavior reports. These include a 20-item Arnett Inventory of Sensation Seeking (AISS; Arnett 1994), a 17-item Need Inventory of Sensation Seeking (NISS; Roth and Hammelstein 2012), and a 19-item Impulsive Sensation Seeking Scale (ImpSS) that, in addition to a total score, provides separate impulsivity and sensation seeking scores to represent the theoretical distinction between these constructs (Zuckerman et al. 1993). All of these scales have the advantage of brevity, Likert response formats that produce greater variability in scores, and evidence of acceptable reliability and construct validity. In time, they may rival or supplant the SSS-V in range of application.

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Sense of Agency

- ▶ [Agency](#)
- ▶ [Personal Agency](#)

Sense of Control

- ▶ [Personal Control](#)

Sense of Humor

- ▶ [Model of Humor Styles](#)

Sense of Self-Worth

- ▶ [Self-Esteem](#)

Sensitivity

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Synonyms

[Affectability](#); [Awareness](#); [Empathy](#); [Feeling](#); [Impressionability](#); [Nervousness](#); [Reactivity](#); [Understanding](#)

Definition

Sensitivity is the level a person or group detects and reacts to a stimulus.

Introduction

Stimuli have become an ever-encroaching aspect of the “connected” human’s life. A world swimming in oceans of information, whether paper or electric, is rarely at a loss for a stimulus to perceive and react to; the unprecedented volume of accessible information can be a stimulus in and of itself. Lee et al. indicated that suffering psychologically from the stress of overwhelming information and stimulation can be serious and lasting (2016). Painting the volume of information and ease of connection in a negative light fails to acknowledge the benefits of current accessibility. Information access should lead to greater awareness and understanding; however, as Sharot (2017) revealed, often humans just entrench themselves further into the beliefs they had originally, ultimately making people less sensitive to correct information. While e-connection might not lead to sensitivity in challenging view, it seems that it does help with the sensitivity to

loneliness. Cacioppo and Cacioppo (2014) identified how one finding zir self on the perimeter of social inclusion is truly sad because of how dangerous it is. Feeling a lack of connection can be very damaging to the development of a person physically and emotionally. Christakis and Fowler (2009) identified that being socially connected helps reduce the risk of mortality or reduces the sensitivity to factors that might have a negative impact on an individual.

Individual Sensitivity

Individual sensitivity is a person's individual awareness and reaction of a stimulus. Experiences in life can increase or decrease a person's individual sensitivity. People are the products of their experiences and typically struggle having empathy with what they are not familiar with. Elements of "white privilege" are completely hidden to those that benefit from the privilege, while ever present to those that are at a disadvantage, which is evidenced historically through the struggles of the civil rights movements of women, people of color, and members of the LGBTQIA+ communities. The inclusion of individuals prevents them from appreciating the need to include others. Ocal and Altmok (2016) identified that having firsthand experience with an unknown issue is required to hold meaningful appreciation of the issue being considered. For instance, consider the push to move from the pronouns of he and she to ze and his and her to zir to include individuals from the LGBTQIA+. What is the hesitation to adapt to more inclusive writing? Typically, the real reason is that the change might not add anything to the person considering it, making the change seem superfluous.

Social Sensitivity

Social sensitivity or collective awareness of shared stimuli changes over time. While changes and movements can occur rapidly in the individual, social sensitivity requires more time because it requires more changed individuals to generate the pressure for the group to change. Epochal moments in history happened through the culmination of

many individual changes. Individual changes build the situational requirements for bigger shifts by creating the potential of a shared appreciation of an occurrence, which the history of equality movements exemplify over and over again. It is important to consider why what happened to Rosa Parks was more influential than what happened to Bayard Rustin, who had a worse bus experience a decade prior? What are the possible differences in sensitivity that allowed one to be so much more of a call to action over the other? According to Schlösser et al. (2018), cooperation is dependent on frequency (instances of a need for cooperation), intensity (emotional reaction to situation), rumination (focus on one's distress rather than the afflicted), and behavioral reactions of the individual. Considering cooperation and its role in creating change, it is clear that an individual's experience and feelings play in the narrative shifting, which places experience and feelings about the experience as the crux of the situation. It wouldn't be hard to understand that experience is somewhat stifled or slowed by gated communities and other social motes, which prevent some shared experiences.

Conclusion

Rather than seeing sensitivity as a negative statement, it should be understood as one of humanity's greatest gifts. It is through sensitivity that growth and change are possible. Awareness is the opportunity to change and sensitivity is required for awareness. Ultimately, sensitivity is what generates morality.

Cross-References

► [Compassion](#)

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Sentiment (Cattell)

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Synonyms

[Acquired drive](#); [Interest](#); [Learned motive](#);
[Opinion](#); [Secondary drive](#)

Definition

In contrast to the primarily genetic dynamic traits that Cattell called *ergs*, *sentiments* in his system are predominantly acquired through learning (Cattell 1940). According to Cattell sentiments are motivational structures that develop through learning about objects, actions, people, institutions, and even symbolic ideas, like religions, that are encountered by individuals during their psychological development.

Introduction

Unlike the novel word *erg*, which Raymond Cattell coined because of his dissatisfaction with terms like instinct and drive, the word *sentiment* had been widely employed for many years. One of the best known uses of the word sentiment dates back to 1759 and the economist Adam Smith in his classic book *The Theory of Moral Sentiments*. Closer to Cattell in time was the psychologist William McDougall,

who also gave sentiments a prominent role in his ideas about social psychology (McDougall 1926).

Sentiments

Sentiments are built up through the learning of *attitudes*, which Cattell depicted as fundamental building blocks.

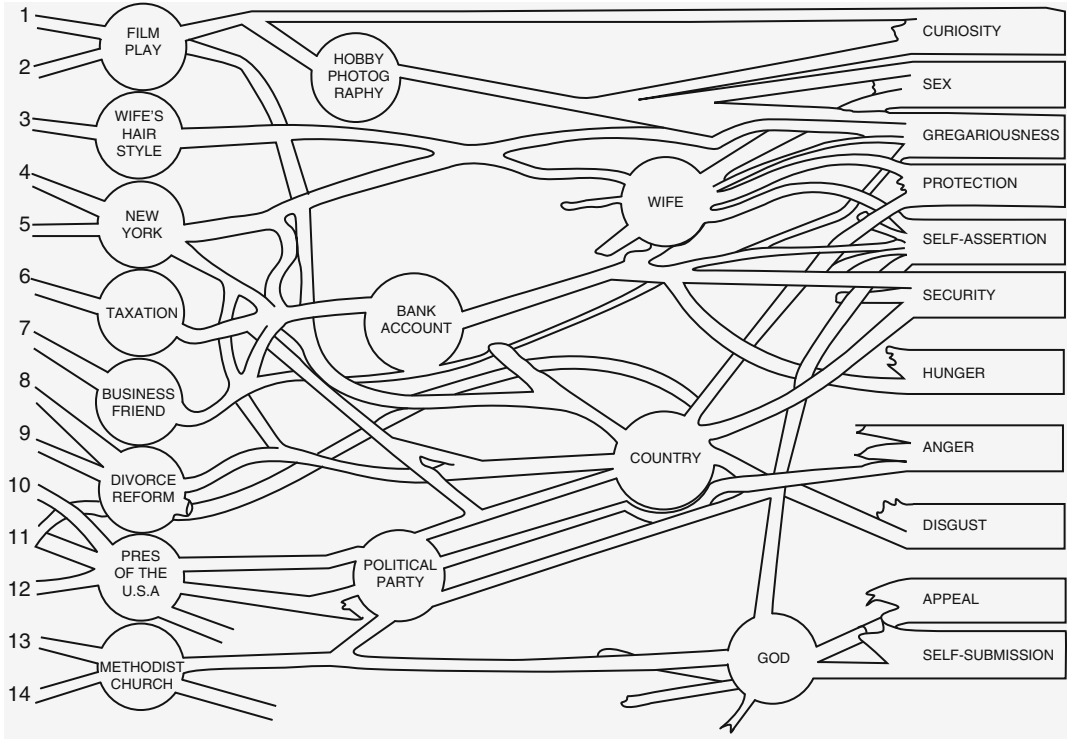
According to Cattell attitudes may be considered in a very specific way with the template of “Under these circumstances I want so much to do this with that.”

The most important feature of his definition was the use of the word *do*. For Cattell attitudes were always associated with an action of *doing*. Motivation is why we do things.

He conceived of sentiments as collections of attitudes that are learned about features of our environment. As with his research with *ergs*, Cattell began his work on sentiments by compiling a long list of human interests, and then used the multivariate statistical method of factor analysis to look for basic dimensions (Cattell 1979).

The following is a list of sentiments identified in Cattell’s laboratory:

- Profession
- Parental family, home
- Spouse
- The self-sentiment – physical and psychological self
- Superego
- Religion
- Sports and fitness
- Mechanical interests
- Scientific interests
- Business-economic
- Clerical interests
- Esthetic expressions
- Esthetic-literary appreciation
- Outdoor-manual
- Theoretical-logical
- Philosophical-historical language
- Patriotic-political
- Sedentary-social games
- Travel-geography
- Education-school attachment



Sentiment (Cattell), Fig. 1 Fragment of a dynamic lattice showing attitude subsidization, sentiment structure, and ergic goals (Reproduced with permission from

Personality and Learning Theory, Vol. 2 (p 77), by R. B. Cattell 1980. © Springer Publishing Company, New York)

- Physical-home-decoration-furnishing
- Household-cooking
- News-communication
- Clothes, self-adornment
- Animal pets
- Alcohol
- Hobbies not already specified

Ultimately, all sentiments acquire their motivating capacity from ergs through a variety of learning processes. The three main types of processes involved in sentiment development are:

1. A common learning schedule
2. Action of an inherent growth agency
3. Common subsidization or budding (Cattell 1980)

As a way of explaining his intricate theory of motivation, Cattell created a diagram to illustrate

the complex interactions of attitudes, sentiments, and ergs by means of a *dynamic lattice* that is shown below (Fig. 1).

The interconnecting lines between attitudes and sentiments, which originate with ergs, are used to represent the flow of motivational energy (from left to right). For example, the attitude about whether to vote for a particular PRESIDENT OF THE USA is influenced most powerfully by a person's sentiment about a specific POLITICAL PARTY. The action-impacting sentiment, about whether to register with a political party, draws its strength from (i.e., subsidizes to) the person's sentiment about her/his COUNTRY. Eventually paths may be traced back to levels of the ergs: PROTECTION, SELF-ASSERTION, SECURITY, ANGER, and DISGUST.

Cattell (1946) first conceptualized the dynamic lattice framework of motivation while working with Henry Murray at Harvard and continued to

develop it for many years (Boyle 1988). Interestingly, one of the final modifications he made to his theory of dynamic traits was to switch from using the word *sentiment* to *sem* (Cattell 1987). He utilized the word *sem* because of its brevity and greater grammatical flexibility.

Conclusion

The term sentiment was widely used for many years and then, with the exception of work of Raymond Cattell, became less popular during the last half of the twentieth century. In recent years interest in sentiments has increased enormously with the introduction of *sentiment analysis* for mining text data (Liu and Zhang 2012). More information about the role of sentiments in Cattell's structure-based systems analysis may be found in Gillis (2014).

Cross-References

- ▶ [Attitudes](#)
- ▶ [Exploratory Factor Analysis](#)
- ▶ [Social Psychology](#)

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Sentimentality

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Synonyms

[High emotionality](#); [Nostalgia](#); [Tenderness](#)

Definition

Sentimentality is the state or condition of experiencing high emotionality when thinking about a person, place, time, or experience. This concept is commonly associated with feelings such as love, sadness, and tenderness. Sentimentality can be thought of as a state in that most people have experiences from time to time that make them feel sentimental. However, sentimentality is also trait-like. That is, individuals differ in the extent to which they tend to be sentimental. Some people are more chronically prone to sentimental feelings whereas other feel sentimental infrequently.

Introduction

Sentimentality is regarded as a mostly positive trait that contributes to interpersonal warmth, as well as success in connecting with others. However, more broadly sentimentality is an adaptive behavioral tendency that improves well-being and helps people cope with psychological threats. The current entry begins by discussing sentimentality as a component of interpersonal warmth. After establishing the role of sentimentality in interpersonal warmth, research on the

social and broader well-being benefits of nostalgia (a sentimental longing for the past) will be reviewed.

The Social Implications of Sentimentality

As a trait, sentimentality is a component of a prosocial personality style. Specifically, five-factor personality models consider sentimentality to be a component of agreeableness, a personality trait of being friendly, likable, and concerned with interpersonal harmony (Saucier and Goldberg 1996). Similarly, the HEXACO model of personality considers sentimentality as the tendency to form and maintain strong emotional bonds, which is predictive of empathic concern and emotional attachment to other people (Ashton et al. 2014).

Sentimentality is most commonly associated with the experience of nostalgia, a sentimental longing for the past. To feel nostalgic is to have a generally positive (i.e., warm) feeling with perhaps a tinge of negative affect (i.e., longing, sadness) about an experience from one's past (Wildschut et al. 2006). Nostalgizing involves reflecting on a cherished memory from the past that is typically social in nature and/or from childhood (Wildschut et al. 2006). Most people report regularly experiencing the sentimental state of nostalgia, and this is the case across adult age groups and cultures (Wildschut et al. 2006; Zhou et al. 2008).

Nostalgia is also conceptualized as a trait. That is, individuals vary in the sentimental emotion of nostalgia. This individual difference is characterized both by the frequency of experiencing nostalgia and by the extent to which nostalgia is personally valued. Highly nostalgic individuals tend to feel nostalgic quite frequently (sometimes multiple times per day) and also report highly valuing or finding important their nostalgic feelings (Routledge et al. 2008).

Research indicates that nostalgizing increases a sense of feeling loved by, supported by, and connected with other people (Wildschut et al. 2006). Moreover, nostalgia gives people

the confidence and motivation to pursue social goals of establishing and maintaining social bonds (Abeyta et al. 2015). Finally, nostalgia has been found to increase prosocial behaviors and intentions, such as donating to charity and helping others (Zhou et al. 2012). At the trait level, the need for social belonging has been found to predict the tendency to engage in nostalgic reflection, and this sentimental proclivity is in turn associated with a greater sense of social support (Zhou et al. 2008). In sum, research on nostalgia indicates that sentimentality fosters a sense of social belonging and leads to interpersonal and prosocial behaviors.

The Broader Implications of Sentimentality

Sentimentality also has broader implications for psychological well-being. Research on nostalgia, for example, indicates that sentimentality aids in maintaining psychological equanimity and generally promotes well-being. In particular, this research indicates that individuals high in trait nostalgia are better able to cope with psychological threats (e.g., Routledge et al. 2008). These highly sentimental individuals are better able to cope with threats to well-being because they recruit nostalgia to regulate distress. Specifically, research has found that threats to one's sense of self (Sedikides et al. 2015) and one's sense of meaning in life (Routledge et al. 2011) trigger nostalgia. Nostalgia in turn bolsters well-being. For example, nostalgic reflection has been found to bolster one's sense of self-worth and self-continuity (Sedikides et al. 2015; Wildschut et al. 2006), foster a sense of meaning in life (Routledge et al. 2011), and increase a general sense of optimism (Cheung et al. 2013). Finally, sentimentality appears to be predictive of well-being because of the social benefits associated with it. Specifically, research indicates that nostalgia's capacity to promote meaning in life (Routledge et al. 2011), increase self-esteem, and generate optimism (Cheung et al. 2013) is mediated by social connectedness.

Conclusion

Sentimentality is the tendency to experience high emotionality when being reminded of a person, experience, or location. Sentimentality is thought to be an important trait for interpersonal harmony that predicts empathic response to others and emotional attachment to others. Sentimentality is commonly associated with the experience of nostalgia, a sentimental longing for the past. Research on nostalgia suggests that feeling sentimental plays a role maintaining social belonging and promoting prosocial behaviors and interpersonal pursuits of developing and sustaining social bonds. Finally, research on nostalgia indicates that the social benefits associated with sentimentality have broad implications for psychological well-being.

Cross-References

- ▶ [Agreeableness](#)
- ▶ [Emotionality](#)

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Separate

- ▶ [Independence](#)

Separateness

- ▶ [Separation](#)

Separation

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Synonyms

[Object loss](#); [Separateness](#)

Introduction

The course of human development involves a steady progression toward separateness, from the infant who is entirely dependent on caregivers for survival to the autonomous adult who is largely responsible for her own self-care. How this process of separation is experienced and internalized shapes

the contours of our personality functioning. Margaret Mahler and colleagues (1975) conceptualized *separation* as a developmental stage in which the child acquires an intrapsychic sense of separateness from the parent; this stage is followed by *individuation* wherein the child has a feeling that “I am, an early awareness of a sense of being, of entity” (Mahler et al. 1975, p. 8).

Models of Separation

The process of separation from a primary attachment figure has held long-standing importance in psychoanalytic developmental theories. Freud (1926) conceptualized separation in terms of object loss or the process in which the infant is driven to separate from its primary love object (usually the mother). While the infant has little awareness of a distinction between her own needs and the mother’s responsiveness to those needs, with development comes an increasing recognition of the mother as separate, and with that comes an awareness of the danger posed by separation. Freud (1926) viewed anxiety as a reaction to the threat of loss of the primary love object’s capacity to satisfy need states.

Theorists subsequent to Freud focused less on the loss of what the primary caregiver does (in terms of gratifying or frustrating needs) and more on the primary caretaker as a person and what it means to be separated from her. Mahler et al. (1975) viewed the infant in a symbiotic relationship with the mother, initially merged with her personality and progressing toward greater autonomy as development unfolds (Greenberg and Mitchell 1983). Mahler argued that achieving a sense of separation from the caregiver allows for individuation, the embodiment of more individual characteristics, each crucial to the development of healthy personality functioning and future relationships (Mahler and Gosliner 1955). Erikson (1966) also described a stage of childhood development termed *autonomy* versus *shame/doubt*, during which the child becomes more concerned with her own will to act independently and separately from the parent.

Bowlby (1973), integrating ethology and evolutionary theory, conceptualized early separation from primary caregivers as a threat to survival. Because human infants depend on the parent for a much longer period than any other animal, early attachment to caregivers becomes essential in ensuring safety and care. For Bowlby, anger functions as a protest to separation from caregivers. However, if the child experiences the parent as a secure base who is reliably available in times of need, then the experience of separation comes to feel safe.

Normal Separation

Mahler and colleagues (1975) proposed that the physical birth and psychological birth of the infant were two distinct events that occurred across different timelines. Physical birth is a clearly observable, circumscribed event in time. By contrast, the psychological birth of the infant is an intrapsychic process that gradually unfolds over time, beginning in infancy during the *separation-individuation* process. Prior to this stage, the infant is conceptualized as symbiotically related to the mother, with little sense of where one’s own body ends and the mother’s body begins. The mother functions as the *primary love object* and the infant’s principle representation of the world. As the infant matures, her developing locomotor ability allows her to physically separate from the mother. This physical separation precedes a psychological one, in which the infant establishes a sense of separateness from the parent. However, there can be a lag in “emotional readiness” during which the child may not be ready to handle the psychological implications of being able to physically separate from the mother (Mahler et al. 1975, p. 10). This lack of readiness may result in “panics” (p. 11) that can become transient and benign given the coping patterns implemented by the mother and infant. Successful navigation of separation allows for individuation, in which the child assumes more autonomous and individualized characteristics, paving the way for the later development of a sense of identity. While the process always

remains active throughout an individual's life, the principle psychological achievements of the separation-individuation phase are thought to occur from about ages 4 months to 36 months.

Separation Anxiety

Separation anxiety is characteristic of the separation-individuation phase, as the child contends with the desire to separate but also the fear of being separate (Mahler et al. 1975). During a period called "rapprochement," the child comes to the frightening realization of being a small member of a larger world, with the illusion of omnipotence over the parents fading into a sense of powerlessness. With this come intense and often contradictory needs within the child for dependency and for autonomy. For Mahler, the failure to successfully resolve the ambivalence around these competing needs leads to subsequent psychopathology. The parent's sensitive response to both the child's clinging and distancing behaviors is crucial; parental disavowal of either the child's need to depend or to separate may lead to pathological expressions of those needs later in life (Blatt 1995).

Bowlby (1973) argued that anxiety around the threat of separation is a basic human disposition conducive to survival. That is, humans are predisposed to react with terror in the face of separation from a primary attachment figure because it signals an increased risk of danger. This system is activated not only under real environmental threats but also under attachment-related dangers, such as threats of separation from or loss of an attachment figure. The primary attachment strategy is proximity seeking, which can include physical proximity but also "bringing the other person to mind" through activation of mental representations of a caring and protecting relationship partner (Mikulincer et al. 2003). Those high in attachment anxiety engage in a hyperactivating affect regulating strategy, with behaviors that intensify proximity seeking in an attempt to pull others closer. Interpersonally, hyperactivating strategies can manifest themselves as fears of separation and abandonment and attempt to minimize cognitive, emotional, and physical

distance from a partner. By contrast, those high in attachment avoidance engage in a hypoactivating affect regulating strategy, with behavior that reduces proximity seeking under the assumption that others will disappoint. Interpersonally, hypoactivating strategies can manifest themselves as emotional distance and coldness and attempts to increase self-reliance (Mikulincer et al. 2003). Put differently, fears of separation can be managed by anxiously approaching others in the hope of reclaiming closeness or by defensively avoiding others when closeness appears hopeless.

Internalization and Separateness

While ambivalence toward separation is a normative experience during childhood, in later development a more secure experience of separateness emerges. Bowlby (1988) posited that children thrive when provided with a *secure base* – a parent who reliably meets the child's caregiving needs. As such, the child feels as though she can safely separate from the parent because she has learned that the parent will be there when she returns with caregiving needs. Winnicott (1958) described the "capacity to be alone," or one's ability to endure, even prosper, in solitude, as a developmental achievement. In Winnicott's view, through the experience of being sensitively regulated by caretakers, the child comes to internalize a representation of a cared-for self that can be subsequently drawn upon in moments of distress. Whereas the infant needs external contact with the caregiver to regulate distress, the child may now internally evoke a representation of a cared-for self, making concrete contact with the caregiver a less immediate need. This capacity has been termed "evocative constancy" – the capacity to retain and recall the representation of a loved one that is not immediately present (Blatt 1995). Evocative constancy is central to the capacity to securely separate, because it allows for the individual's internal experience to be "populated" with loving and caring others, even when no one else is present.

Conclusion

Mahler and colleagues (1975) conceptualize separation as the achievement in early infancy that allows for a sense of separateness from the mother, after a period of symbiosis. The infant then uses the new feeling of separateness to individuate, in which she develops a distinct feeling of “I am.” The feeling then serves as the platform for later stages of development that allow the individual to fully actualize her sense of individuality from and in relation to the world. Separation anxiety will occur during this phase but can be successfully overcome to incur normal development. However, conflict in the mother-infant dyad focused on the child’s ambivalence about separating can exacerbate this anxiety, leading to psychopathology and problematic interpersonal functioning later in life.

Cross-References

- ▶ [Attachment](#)
- ▶ [Individuation](#)
- ▶ [Object \(Freudian\)](#)
- ▶ [Object Loss](#)

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Separation Insecurity

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Synonyms

[Attachment insecurity](#); [Fear of rejection](#); [Fear of separation](#)

Definition

Separation insecurity is characterized by a fear of rejection by – and/or a separation from – significant others, related to fears of excessive dependency and a complete loss of autonomy.

Introduction

Separation insecurity is a construct that is most commonly seen as a significant diagnostic criterion for borderline personality disorder. Thus, separation insecurity can best be understood by highlighting how the construct relates to borderline personality disorder and to the Five-Factor Model of Personality Disorders.

Separation Insecurity

According to the *DSM-5*, separation insecurity is characterized by “fears of rejection by—and/or separation from—significant others, associated with fears of excessive dependency and complete loss of autonomy” (American Psychiatric Association 2013, as cited by Trull 2012, p. 1707).

Borderline Personality Disorder

According to the *DSM-5*, borderline personality disorder (BPD) is a mental illness that is characterized by a number of impairments in functioning (self and interpersonal) and certain personality traits. It affects 1–2% of the population, and 10% of individuals with BPD are treated in outpatient psychiatric clinics, while 20% are treated in inpatient psychiatric clinics (Gross et al. 2002; Lenzenweger et al. 1997; Torgersen et al. 2001, as cited by Crawford et al. 2009). In addition, about 3–10% of those who have BPD commit suicide (Crawford et al. 2009).

With respect to impairments in self-functioning, an individual with this disorder will struggle with identity, such as experiencing an unstable self-image and constant feelings of emptiness. In addition, a person with BPD will typically struggle with self-direction, such as instability with goals, career plans, and aspirations. With regard to impairments in interpersonal functioning, a person with BPD will struggle with empathy and intimacy. Regarding empathy, those who suffer from BPD tend to have interpersonal hypersensitivity, such that they feel easily insulted by others. In addition, perceptions of other individuals could be selectively biased with negative attributions and vulnerabilities. With respect to intimacy, relationships are often conflicted, unstable, and intense. In addition, relationships are typically complicated with feelings of neediness, pre-occupations with real or imagined scenarios of abandonment, and mistrust. Relationships with a sufferer of BPD are often experienced in extremes (American Psychiatric Association 2013).

The personality traits associated with borderline personality disorder include negative affectivity, disinhibition, and hostility. Along with negative affectivity, those who present with BPD also experience emotional lability, separation insecurity, depressivity, anxiousness, disinhibition, risk-taking, impulsivity, and antagonism. *Emotional lability* refers to recurrent mood changes and unstable emotions. These emotions can be intense or blown out of proportion. *Separation insecurity* refers to a fear of rejection or a fear of being separated from others. *Depressivity* refers to symptoms of depression, such as feeling miserable, hopeless, suicidal, and pessimistic about the future and having difficulty recovering from depressive states. *Anxiousness* refers to severe panic, nervousness, and worrying about negative events of the past and future. *Disinhibition* is characterized by risk-taking and impulsivity. *Risk-taking* refers to participating in behaviors or actions that are rotationally damaging or dangerous, without being mindful of consequences. *Impulsivity* refers to struggling with controlling behavior, making spur of the moment decisions, or struggling with making and following through on plans. Lastly, *antagonism*, another personality trait common to those with BPD, refers to frequent or ongoing anger or irritability toward insults (American Psychiatric Association 2013).

BPD and the Five-Factor Model of Personality Disorders

Five-Factor Model

The Five-Factor Model of Personality Disorders (FFMPD) was developed from the five-factor model (FFM) of personality. It is often used to describe and comprehend personality disorders as they appear in the *DSM-5* (Widiger and Mullins-Sweatt 2009, as cited by Trull 2012). The FFM refers to five orthogonal personality traits: openness to experience (versus closedness to experience), conscientiousness (versus negligence), extraversion (versus introversion), agreeableness (versus antagonism), and neuroticism (versus emotional stability) (Goldberg 1990; McCrae

and Costa 1987). These personality traits are often seen in personality disorders. Personality disorders are defined by extreme, maladaptive adaptations of personality traits (APA 2000, as cited by Trull 2012).

Most personality disorders show elevations of introversion, negligence, neuroticism, and antagonism (Saulsman and Page 2004; Samuel and Widiger 2008, as cited by Trull 2012). In addition, many personality disorders have positive relationships with neuroticism and negative relationships with agreeableness, conscientiousness, and extraversion. These relationships of the FFM can help identify why some personality disorders are comorbid (e.g., paranoid PD, schizoid PD, and schizotypal PD) (Lynam and Widiger 2001, as cited by Trull 2012).

With relation to the FFM, individuals with borderline personality disorder tend to be low on agreeableness and conscientiousness. Thus, those with BPD show low levels of trust, compliance, self-discipline, competence, deliberation, and dutifulness. In addition, those with BPD tend to exhibit high levels of neuroticism, meaning high levels of impulsivity, depressiveness, anger, hostility, and anxiousness. These features are also associated with other personality disorders, which can make the diagnosis complex (Samuel and Widiger 2008, as cited by Trull 2012).

The Five-Factor Model of Personality Disorders

Now that it's clear what BPD is and how it can be described in terms of the FFM, one can explore how BPD is defined according to the Five-Factor Model of Personality Disorders (FFMPD). Since the FFMPD relates directly to the *DSM-5*, it is instructive to reiterate the characteristics of BPD in the *DSM-5*. In the *DSM-5*, common traits of BPD include emotional lability, anxiousness, hostility, depressivity, and separation insecurity, which are seen as components of negative affectivity. In addition, other characteristics of BPD in the *DSM-5* include risk-taking and impulsivity, which are seen as components of disinhibition (American Psychiatric Association 2013).

Within the FFMPD model, traits from the disorder and the FFM are combined. According to

the FFMPD, the BPD symptoms of anxiousness, depressiveness, anger/hostility, vulnerability, and impulsiveness are seen as traits stemming from neuroticism. The symptom of low compliance is seen as relating to antagonism. Feelings, actions, low competence, and low deliberation are seen as stemming from struggles with openness (Lynam and Widiger 2001). Both the FFM and the FFMPD illustrate how personality disorders relate to different levels of personality traits and thus to the comorbidity of personality disorders and other mental illnesses.

Early Maternal Separation and BPD

Previous studies have shown that BPD is associated with childhood histories of abuse, neglect, and other relationship-related risk factors (Links et al. 1988; Zananirki et al. 2002, as cited by Crawford et al. 2009). In addition, insecure attachment plays a key role in BPD (Agrawal et al. 2004; Bartholomew et al. 2001, as cited by Crawford et al. 2009). Levy (2005, as cited by Crawford et al. 2009) found a link between diagnoses of BPD and insecurely attached adults.

Aligned with this notion, John Bowlby, a renowned attachment theorist, found that early separations were significant threats to a child's emotional development. He observed how infants were extremely traumatized when separated from their mothers; first they would cry hysterically and then fall into periods of misery. Thus, Bowlby hypothesized that extended separations weaken the emotional security of young children (1969, 1973, 1980, as cited by Crawford et al. 2009). Other research has shown that childhood separations are associated with attachment insecurity problems (Moss et al. 2005; Waters et al. 2000, as cited by Crawford et al. 2009). Therefore, this research helps explain how insecure attachment (due to separation) may be associated with various psychological problems in children, adolescents, and adults (Mikulincer and Shaver 2007, as cited by Crawford et al. 2009).

Crawford et al. (2009) investigated how early maternal separation before the age of five affects children and the parent-child relationship.

Specifically, the researchers examined whether the negative effects of early maternal separation were a predictor of developing BPD. Participants in this study were 766 youth and their mothers from a previous study completed by Cohen et al. (2005, as cited by Crawford et al. 2009). All of the youth in this study were separated from their mothers before the age of five and were asked to complete two or more follow-up interviews, making this a longitudinal study. At the follow-up interviews, the average ages of the participants ranged from 13 to 33 (Crawford et al. 2009).

Both the youth and mothers were interviewed. The youth completed surveys relating to BPD and insecure attachment. BPD was measured using the Personality Diagnostic Questionnaire (Hyler et al. 1983, 1990, as cited by Crawford et al. 2009) and questions that reflected additional items from the DSM-IV (American Psychiatric Association 1994, as cited by Crawford et al. 2009). Insecure attachment was measured using attachment scales created by Crawford et al. (2006, as cited by Crawford et al. 2009).

Mothers answered questions about maternal separation, demographics, child risk factors, and maternal risk factors. Questions about maternal separation centered on the duration and reason for the separation. Demographic questions related to socioeconomic status. Child risk factors, such as temperament, were measured, as well (Chess and Thomas 1977; Thomas and Chess 1977; Thomas et al. 1970, as cited by Crawford et al. 2009). Maternal risk factors, such as maternal interpersonal conflict, marital conflict, and inconsistencies in child-rearing, were also assessed using various scales (Derogatis et al. 1974; Fincham and Osborne 1993; Schaefer 1965; Jessor et al. 1968, as cited by Crawford et al. 2009). Lastly, official records of child maltreatment were collected, and 37 of the participants met the legal criteria for neglect, physical abuse, or sexual abuse (Crawford et al. 2009).

The researchers found that extended childhood separation from the mother before the age of five was associated with symptoms of BPD up to 30 years later. In addition, BPD symptoms

showed a lower rate of decline for those who experienced early extended separations. A long-term risk for BPD was associated with mothers leaving their children for personal reasons, relocating for job/educational purposes, or the children staying with another relative for an extended period of time. This aligns with Bowlby's theory, specifically the notion of children's internal working models. Children may have a difficult time understanding maternal separation and may blame themselves for it. This threatens children's mental representations of themselves and others (internal working models). These separations can cause children to believe that their mothers did not want or care about them, which can then make the children believe that they are unworthy of love and should expect rejection from people (Bowlby 1969, 1973, 1980, as cited by Crawford et al. 2009).

The researchers also found that maternal reports of childhood temperament issues, like temper tantrums, predicted BPD symptoms. In addition, a history of child abuse was associated with BPD symptoms. Children, who experienced early maternal separation, formed anxious attachment styles in close/romantic relationships, which were associated with higher rates of BPD symptoms. Lastly, maternal interpersonal difficulties and parental conflicts were not associated with BPD symptoms (Crawford et al. 2009).

Limitations of this study included only investigating maternal separation. Other family dynamics could also be investigated. In addition, the data was comprised solely of self-report data, which can be affected by social desirability or bias. Though this study has its limitations, it illustrates how early maternal separation can relate to separation insecurity, which plays a pivotal role in borderline personality disorder.

Conclusion

Thus, separation insecurity can best be understood in the context of delineating the intricacies of early attachment patterns and borderline personality disorders. Discussing borderline personality disorder in relation to the five-factor

model of personality and the FFMPD offers a more comprehensive examination of both borderline personality disorder and separation insecurity.

Cross-References

- ▶ Attachment Theory
- ▶ Borderline Personality Disorder
- ▶ Separation

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Seven Deadly Sins

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Synonyms

Capital vices; Cardinal sins; Immoral behaviors; Immoral thoughts; Sins; Vices

Definition

The Seven Deadly Sins is a classification system of transgressions or vices – anger, envy, greed, lust, pride, gluttony, and sloth – that were popularized by the Catholic Church.

Introduction

The seven deadly sins – which are also known as “vices” – are a set of aversive thoughts and behaviors that were popularized by the Catholic Church with the belief that an absence of vice signifies the existence of virtue (Bejczy 2011). The seven vices and their corresponding virtues

are anger (vs. patience), envy (vs. kindness), greed (vs. charity), lust (vs. chastity), pride (vs. humility), gluttony (vs. temperance), and sloth (vs. diligence; e.g., Schimmel 1997). These seven vices are ubiquitous, such that they are present in our everyday lives and exist in both popular and academic culture (e.g., Stimers et al. 2011). In addition, they have even been considered a part of what makes one human or humane (Schimmel 1997). That is, exhibiting vice (e.g., lust) may help satisfy some basic human needs (e.g., biological sexual impulses); however, exhibiting vice in certain contexts – or to extreme degrees – is potentially problematic and injurious to the self or others (e.g., sexual infidelity). Thus, regardless of their religious underpinnings, these vices are relevant to contemporary society and individuals such that both non-secular and secular individuals either exhibit or try to avoid these vices on a daily basis (Schimmel 1997).

One concern that has puzzled scholars for years, and yet, remains to be solved, is what motivates people to exhibit extreme or maladaptive levels of vice? A majority of explanations conceptualized the vices as manifestations of the inability to regulate psychological or physical impulses (see, Schimmel 1997, for an extended discussion). For example, individual differences in self-control have been found to play a significant role with regard to whether a person exhibits vice. Despite the importance of this explanation, empirical research on the connections between the vices and other individual differences (e.g., personality) remains limited. For this reason, scholars have recently focused their attention on developing a valid empirical assessment of the vices (Veselka et al. 2014), which in turn, generated a recent surge of interest in examining the connections between personality, particularly dark personality features, and an individual’s propensity to exhibit vice (e.g., Jonason et al. 2017). As a result of these advances, the purpose of this entry is to provide a brief overview of the seven vices, recent research examining the connections between personality and vice, as well as potential implications and suggestions for future research.

The Seven Vices

Anger is evoked when an individual experiences frustration from a real or anticipated threat and can be conveyed either internally as an affective state (e.g., vengeful thoughts) or externally as a behavior (e.g., physical or verbal aggression; Lyman 1989). Some scholars have raised questions regarding whether anger is always an undesirable emotion or whether it may have some functional purpose or utility (e.g., DeYoung 2009; Schimmel 1997). For example, past research has found that participants who were exposed to anger-inducing manipulations (e.g., recalling a time in which they were angry) performed better on a confrontational task (e.g., playing a computer game that involved fighting) than a non-confrontational task (e.g., playing a computer game that involved increasing positivity; Tamir et al. 2008). However, if left uncontrolled, anger at the affective state can elicit aggressive impulses, which, in turn, may increase violent behavior (see Baumeister and Exline 1999, for a review).

Envy is an unpleasant emotion that occurs when an individual makes an upward social comparison to a similar other that reflects negatively on the self (e.g., Parrott and Smith 1993). The sorts of upward social comparisons that tend to trigger feelings of envy are those that involve threats to one's feelings of self-worth because they reflect an erosion of one's relative social position (Salovey and Rodin 1991). For example, envy occurs when an individual realizes that he or she lacks something that belongs to another person such as a personal attribute (e.g., beauty), an accomplishment (e.g., receiving a good grade), or a possession (e.g., financial wealth; Parrott and Smith 1993). Overall, when envy is evoked, it is designed to motivate individuals to focus their efforts on overcoming this perceived inferiority (Salovey and Rodin 1991).

Greed occurs when an individual has an excessive need to acquire more goods, assets, money, or possessions (e.g., DeYoung 2009). That is, greed consists of a lack of satisfaction with one's current material possessions or status combined with a desire to acquire additional material possessions or increase one's status (e.g., Nikelly 1992;

Seuntjens et al. 2015). In theory, greed may have productive and motivational benefits such as improving performance, gathering beneficial resources, and increasing status; however, greed has also been linked to detrimental outcomes including poor self-control, impulsiveness, increased self-interest, and decreased life satisfaction (Seuntjens et al. 2015).

Lust (also referred to as sexual desire or libido) is characterized by an increase in sexual gratification, promiscuity, or desire that is triggered by psychological and physiological stimuli (Fisher 2000). Lust has been regarded as a distinct emotion-motivation system that is independent from the attachment system (see Fisher 2000, for a conceptual review). For instance, a person can experience sexual desire toward another individual without signs of emotional attachment, or a person can experience emotional attachment toward another individual without signs of sexual desire (Fisher 2000). Past research has found that exhibiting lust has a significant impact on behavior such that individuals who report high levels of lust are more willing to engage in a wide array of risky sexual activities as well as adopt a short-term mating strategy (see Beall and Tracy 2017, for review).

Pride is an overwhelming amount of self-love and a disregard for others due to extreme self-centeredness (e.g., Kaplan and Schwartz 2008). Importantly, researchers have proposed that pride may have coevolved with the status and respect motivational systems because of its significant adaptive functions (see Beall & Tracy in press, for an extended review). For instance, feelings of pride may increase status such that expressions of pride signals one's success to others, which in turn, may convey to the person experiencing pride that he or she warrants high status (e.g., Tracy and Robins 2007). Overall, pride appears to facilitate success; however, due to its self-focused core, it may be harmful to others (e.g., treating others unfairly; Baumeister and Exline 1999).

Gluttony refers to an overconsumption or over-indulgence in pleasures or desires (e.g., Schimmel 1997). Originally, the core of gluttony was characterized by an excessive consumption of food; however, in the Middle Ages the characterization

of gluttony expanded to include overconsumption of alcohol and drugs (e.g., Miller 1997; Prose 2003). In this vein, there has been a growing concern regarding the physical and psychological consequences of exhibiting gluttony (e.g., Millward 2013). As a result, it has been suggested that health-related concerns such as obesity may be explained, at least in part, by an excessive desire for food (e.g., see Smith 2014, for an extended discussion). However, recent research suggests that there may be an array of factors that facilitate the overconsumption of desires and pleasures. For example, internal (e.g., emotions) and external (e.g., attitudes and behaviors of others) processes have been found to play a significant role with regard to the overconsumption of food (Kemp et al. 2013).

Sloth refers to a lack of motivation and failure to make use of one's abilities (e.g., procrastination, lack of effort, laziness; Lyman 1989). Some scholars have suggested that sloth is the sense of shame that is experienced after exhibiting gluttony (Miller 1997), whereas others have argued that sloth may be an impulse to merely escape something burdensome (DeYoung 2009). Conceptually, escaping something burdensome aligns with empirical research regarding procrastination. That is, individuals often engage in self-handicapping behaviors (e.g., procrastination) when they have to engage in a task that may be threatening to their self-worth (e.g., Jones and Berglas 1978). As a consequence, this allows the individual to attribute a potential failure (e.g., failing an exam) to external causes such as a lack of behavioral effort (e.g., studying for a test) rather than internal attributions (e.g., feelings of self-worth).

Dark Personality and the Seven Vices

As a result of the construction and validation of the Vices and Virtues Scale (Veselka et al. 2014), researchers have been able to investigate the links between personality, particularly its darker aspects, and the seven vices. Darker aspects of personality consist of characteristics such as callousness, exploitativeness, and manipulateness

(see Zeigler-Hill and Marcus 2016, for a review). Broadly speaking, results from a few recent studies have found that individuals with certain dark personality features were more likely to exhibit vice than other individuals. In particular, individuals with high levels of narcissism, psychopathy, Machiavellianism, sadism, and spitefulness were more likely to exhibit certain vices (e.g., greed, envy, pride, anger) than other individuals (e.g., Jonason et al. 2017; Veselka et al. 2014). Further, researchers have started to examine the connections between an alternative model of personality pathology that assesses a broad continuum of pathological personality dimensions (i.e., the Personality Inventory for the *DSM-5*; Krueger et al. 2012) and the vices. The results of one recent study revealed that individuals with high levels of antagonism and disinhibition were more likely to report exhibiting each of the seven vices than other individuals (Vrabel et al. 2018). Overall, these findings are important because they establish initial connections between aversive personality traits and vice, such that personality processes may play an important role regarding whether someone is likely to report increased levels of vice.

Conclusion

Ultimately, the aim of the present entry was to provide a brief overview of the seven deadly sins, as well as potential implications and suggestions for future research. More precisely, the recent surge of interest in the seven deadly sins has significant implications for elucidating the connections between individual differences and morality. In essence, morality is an important component of society because it provides individuals with building blocks or rules that allow society to function (Baumeister and Exline 1999). Consequently, investigating the seven deadly sins in conjunction with other aspects of personality may broaden our understanding regarding why some individuals deviate from their respected societal rules. However, this investigation is still in its nascent stages and more empirical research that focuses on the vices is needed. Specifically, future research may

benefit from examining whether other forms of vice exist. For example, recent empirical research has indicated that envy (i.e., benign and malicious envy; Lange and Crusius 2015) and pride (i.e., authentic and hubristic pride; Tracy and Robins 2007) may be conceptualized as two-dimensional constructs. Further, the empirical studies that have investigated the connections between individual differences and vice (e.g., Veselka et al. 2014; Vrabel et al. 2018) have relied on correlational assessments such that the causal nature of these connections have yet to be explored. Future research should attempt to employ other strategies such as behavioral assessments or informant-based reports of the vices in order to establish the causal relationship between personality and vice. For instance, it is possible that certain vices (e.g., pride) shape the development of darker aspects of personality (e.g., antagonism), but it is also possible that another variable impacts both the development of darker aspects of personality and the development of the seven deadly sins. Collectively, the present entry highlights the seven deadly sins, which are aversive thoughts and behaviors that have been overlooked in the scientific study of morality.

Cross-References

- ▶ Anger
- ▶ Greed
- ▶ Moral Anxiety
- ▶ Moral Foundations Questionnaire
- ▶ Moral Foundations Theory
- ▶ Morality
- ▶ Pride
- ▶ Religion
- ▶ Virtue

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Seven-Factor Model of Personality

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Synonyms

[Big seven model](#); [The big seven](#)

Definition

The seven factor model of personality was developed by Tellegen and Waller (1987) using the lexical approach and represents personality traits in terms of seven broad dimensions including positive emotionality, negative emotionality, dependability, agreeability, conventionality, positive valence, and negative valence.

Introduction

Within the past few decades, personality psychologists have generally reached consensus regarding the structure of personality traits. Despite a multitude of trait models ranging from as few as one (Musek 2007) or two (Block and Block 1980; Digman 1997) traits to as many as 20 (Gough 1987), evidence for a five factor model is robust. Indeed, there is evidence that the “Big Five” traits subsumed in this model – extraversion/surgency, agreeableness, conscientiousness, emotional stability (vs. neuroticism), and culture or openness to experience – are generalizable across numerous populations and settings (Marsh et al. 2013; McCrae and Costa 2003; McCrae et al. 2005). Despite this consensus, as noted, there are alternative models that are arguably superior in some ways. One alternative is the Big Seven model, which may be especially relevant for psychopathology assessment and research. In this entry, we will describe the Big Seven and the origins of the model, review empirical evidence supporting the model, and review criticisms of the model. Lastly, we will focus on its potential role in psychopathology research, exploring how it can expand our understanding of mental disorders.

Description of the Seven Factor Model

In order to appreciate how the Big Five and Seven differ, it is necessary to revisit the origins and “discovery” of the Big Five. The Big Five were born out of the lexical tradition, which rests on the assumption that salient and socially relevant individual differences are encoded into the natural language (John et al. 1988; Goldberg 1990). Allport and Odbert (1936) identified nearly 18,000 descriptive terms amassed from the English language dictionary and categorized the terms into one of four categories including stable traits, temporary moods, social evaluations, and a miscellaneous category encompassing physical characteristics and talents, among other things. Only those in the first category, the stable traits, were further considered and subsequently factor

analyzed, and these factor analyses resulted in the five replicable factors we now refer to as the Big Five (Cattell 1943; Goldberg 1990; Norman 1967; Tupes and Christal 1961; see John et al. 1988, for a complete historical account). Notably, the other types of descriptors, such as social evaluations, were excluded. This exclusion has prompted some critics of the five factor model to argue that the model is not comprehensive enough to appreciate the true complexity of personality (Block 1995).

Tellegen and Waller (1987) are among those who believe this assertion. Tellegen (1993) argued that it is critical to include evaluative terms, characteristics to which one ascribes a desirability or value, such as “evil” (a moral judgment of negative quality) or “unworthy” (a devaluation of self). He emphasized that neglecting evaluative terms results in elimination of key individual differences in personality, such as self-esteem. Tellegen further argued that early researchers’ choice to exclude affective terms results in “a systematic underrepresentation of potential emotional-temperament-related trait descriptors” (Tellegen 1993, p. 124). In an effort to remedy this, Tellegen and Waller (1987) used a similar natural language approach to identifying the major personality traits represented in the lexicon, but they used less stringent criteria when selecting words, including stable trait terms in addition to previously neglected terms falling outside this realm, such as evaluative terms. Using a stratified sampling method, 400 personality descriptors were chosen from the dictionary. When self-report ratings of these terms were organized by factor analysis, seven broad personality dimensions emerged, which were named the “Big Seven.” The first five factors (positive emotionality, negative emotionality, dependability, agreeability, and conventionality) were largely similar to the Big Five dimensions, though there were some notable differences. As an example, positive and negative emotionality were similar to extraversion and neuroticism, respectively, but differed in that they appeared to be more emotional-temperament dimensions. The final two factors were named positive and negative valence. Waller (1999) described the positive valence factor as measuring “a sense of self-worth and personal value at

moderate levels and a grandiose sense of self-importance and specialness at the upper extreme” (p. 170), exemplified by adjectives such as “special” or “excellent.” Negative valence has been defined as “self-perceptions of evilness or awfulness” (Waller 1999, p. 170) and is associated with words such as “wicked” and “terrible.” On the heels of this research, Tellegen and colleagues created an inventory designed to measure the Big Seven, the Inventory of Personal Characteristics #7 (IPC-7; Tellegen et al. 1991).

Support for the Big Seven Model

Considerable support for the Big Seven model has since emerged, much of which hinges on robustness across cultures. Benet and Waller (1995) sought to evaluate the cross-cultural generalizability of the model, using a Spanish translation of the IPC-7. They obtained self-reports of the IPC-7 in English- and Spanish-speaking samples and peer-reports of the IPC-7 in a Spanish-speaking sample. A seven factor solution fits the IPC-7 items well in all samples, and the solutions were remarkably similar across samples. There were some differences, though, highlighting the impact of culture on self-evaluations. For example, in self-reports, “odd” had a negative loading on the conventionality factor in American samples but loaded on positive valence in the Spanish sample. Benet and Waller also collected self-reports of the Big Five in English- and Spanish-speaking samples. In a joint factor analysis of the Big Five and Seven items, a seven factor model fit the data better. Seven factor models have also been seen in Hebrew (Almagor et al. 1995) and Tagalog (Church et al. 1998), though these factor structures were not exact replications of Tellegen and colleagues’ model. For example, in the study of Hebrew, the typical fifth factor, openness to experience or conventionality, did not emerge. Instead, Almagor and colleagues described it as a continuation of the extraversion/positive emotionality factor with adjectives such as talkative, eccentric, and silent loading on it. In the study of Tagalog, an entirely different factor structure

emerged with a solid negative valence factor but an absent positive valence factor. A negative valence factor has also appeared in studies of the Dutch lexicon (De Raad and Hoskens 1990; De Raad et al. 1988). First, De Raad et al. (1988) collected self- and peer-reports of verbs and verbal phrases, rather than adjectives, and found a ten factor solution with factors resembling the Big Seven negative and positive valence factors. Next, De Raad and Hoskens (1990) collected self- and peer-reports of nouns and found support for a seven factor model. In this second study, a negative valence dimension was clearly identified, though a positive valence dimension was not. Finally, a study of Serbian provided partial support for the Big Seven (Smederevac et al. 2007). Smederevac and colleagues administered an adjective rating questionnaire and uncovered a factor solution identical to Tellegen and Waller's (1987). However, in their principal component analysis of a questionnaire of statements (rather than adjectives), a five factor solution emerged, one different from the Big Five.

In addition to exploring cross-cultural replicability, researchers have sought to understand the organization and psychological relevance of evaluative terms. Benet-Martinez and Waller (2002) selected adjectives from a list of evaluative terms that Norman (1967) excluded from his factor analysis of personal descriptors. In two separate studies, they examined the structure of these evaluative terms. In the first study, participants sorted the adjectives into groups based on similar characteristics. The sortings were converted to co-occurrence matrices, which were factor analyzed in an effort to discern the internal/conceptual structure of evaluative terms. In the second study, participants rated evaluative adjectives in terms of how strongly they agreed or disagreed in terms of how well that term described them. These ratings were also factor analyzed in order to appreciate the external structure of the terms. There was generally a great deal of convergence across studies. In both, five factors emerged, which included distinction and worthlessness (two facets of positive valence), and depravity, stupidity, and unconvictionality. Benet-Martinez and Waller (2002)

concluded that these dimensions represent important personality variance untapped in Big Five and other personality trait models.

Finally, there is evidence for the incremental validity of the Big Seven in psychopathology research. Indeed, there is research documenting how the Big Seven relate to mental disorders and maladaptive personality and explain variance unaccounted for by the Big Five (Durrett and Trull 2005; Simms 2007). This is discussed in detail below.

Critiques of the Seven Factor Model

Despite some evidence in support of its validity, the seven factor model has been met with some resistance. A common criticism is that positive and negative valence reflect response styles and are artifactual. For example, they may reflect high and low social desirability, respectively, and thus are artifacts that should be either subsumed by other factors or not included at all. This possibility is noted by not only the authors (Tellegen and Waller 1987) but other scholars as well (McCrae and Costa 1995; McCrae and John 1992). Related, the valence factors arguably could be artifactual factors resulting from highly skewed items. That is, the items loading on the valence factors tend to be those that are endorsed relatively infrequently (McCrae and John 1992). It has also been argued that positive and negative valence are simply maladaptive extremes of normal personality traits. Widiger (1993) argued this supposition, indicating that negative valence represents an extreme of low agreeableness, and positive valence represents an extreme of high emotional stability. Tellegen (1993) responded to these latter two critiques directly, explaining that effects of difficulty and skew are removed when tetrachoric and polychoric correlations are computed and that factor analyses of Big Seven markers based on both polychoric correlations and product-moment correlations are nearly identical. That is, the factor analytic method rules out the possibility of "difficulty factors." Waller (1999) also noted that the nature of the resulting seven factors directly challenges these criticisms. The positive and negative

valence dimensions are comprised of items with strong loadings on them. Further, the items that loaded highly on these dimensions had near-zero correlations with all other factors suggesting they are orthogonal to the Big Five (Tellegen and Waller 1987; Waller 1999). That is, the factors are relatively pure and clearly defined.

Critics have also suggested that the positive and negative valence factors could be accounted for by other confounding constructs (e.g., self-esteem and/or narcissistic self-regard). For example, Ashton and Lee (2001) deemed the Big Seven model's inclusion of self-evaluative terms to be inappropriate, as this type of self-evaluation can be confounded with self-esteem. However, Tellegen (1993) had already acknowledged this, stating that the two additional factors could indeed reflect differences in self-esteem. He argued that this does not imply that the factors should be removed, rather, that these state- and trait-level aspects of self-evaluation are important to the research of individual differences. Waller (1999) defined both factors as representative of those who endorse extreme adjectives as descriptors of themselves. It would follow logically that those individuals with high self-esteem (perhaps extremely high) are most likely going to endorse items such as "special" or "outstanding."

Another concern McCrae and John (1992) raised is the need to identify outcomes and/or behaviors which are linked to, or accounted for, by the two additional factors of the Big Seven model. Unquestionably, establishing the criterion validity of the valence factors is of paramount importance. This discussion echoes Box's (1976), and more recently, Hand's (2014), sentiments: a model is always wrong, but if it serves an important, specific purpose, it has use. That being said, it seems the seven factor model may have utility in the area of psychopathology, which we discuss in detail below.

The Seven Factor Model in Psychopathology Research

One arena in which the validity of the positive and negative valence dimensions has potential to gain

traction is psychopathology research. The literature examining links between personality and psychopathology is vast, and the connections between traits and disorders are fairly well-established. For example, there are meta-analyses summarizing Big Five connections with Axis I disorders (Kotov et al. 2010) and personality disorders (Saulsman and Page 2004). There is decidedly less research on the utility of the Seven Factor model in the realm of psychopathology although conceptually at least, the sixth and seventh factors may play a critical role.

Benet-Martinez and Waller (2002) and others (Waller and Zavala 1993) made the case that positive and negative valence could shed light on the maladaptive self-evaluative processes characteristic of several personality disorders. As they noted, this would include narcissistic personality disorder, a hallmark of which is a grandiose sense of self-importance, borderline personality disorder, which involves an unstable self-image, and avoidant personality disorder, which entails intense negative self-evaluation (American Psychiatric Association [APA] 2013). Others have argued that they might also be related to Axis I disorders (we acknowledge that the *Diagnostic and Statistical Manual of Mental Disorders – Fifth Edition* abandoned the multi-axial system, though we continue to use the term "Axis I" to distinguish clinical disorders from personality disorders in order to simplify our discussion). Durrett and Trull (2005), for instance, noted that at least one key symptom of depression, intense feelings of guilt/worthlessness (APA 2013), certainly involves negative self-evaluation.

Despite the potential links between psychopathology and positive and negative valence being transparent, there is a scarcity of research in this area. One exception is Durrett and Trull's (2005) research in which they examined the links between positive and negative valence and personality disorders as well as Axis I disorders. In a first series of hierarchical regression models, they sought to predict personality disorder symptom counts from the Big Five and the Big Seven, with the latter entered in the last step of the regression. The Big Seven accounted for a small (i.e., no more than 8%) yet statistically significant amount

of variance above and beyond the Big Five in all but three disorders, paranoid, schizoid, and narcissistic. In that final step of the model, though, negative valence was often a significant, positive predictor. This was true for models predicting paranoid, schizotypal, antisocial, borderline, avoidant, dependent, and obsessive compulsive personality disorders. Positive valence was a significant, negative predictor for schizotypal only and surprisingly did not significantly predict narcissistic personality disorder. In a separate series of hierarchical regression models, they sought to predict lifetime Axis I diagnoses from the Big Five and the Big Seven, with the latter entered in the last step of the regression. The Big Seven did not have any incremental validity, although low positive valence significantly predicted any Axis I disorder, any substance use disorder, and any eating disorder. This finding was unexpected as they anticipated that negative, not positive, valence would predict Axis I disorders.

Simms (2007) followed up on this study by examining the relationships among positive and negative valence and maladaptive personality. He included scales on the IPC-7 (Tellegen et al. 1991), a measure of the Big Five, the Narcissistic Personality Inventory (NPI; Raskin and Terry 1988), the Rosenberg Self-Esteem Scale (RSES; Rosenberg 1965), and the Schedule for Non-adaptive and Adaptive Personality – Second Edition (SNAP-2; Clark et al. 2009), which is a measure of maladaptive personality traits. In terms of the SNAP-2 temperament and trait scales, positive valence was positively correlated with entitlement, positive temperament, and exhibitionism, and negatively with detachment and self-harm, particularly the subscale of low self-esteem. In terms of the SNAP-2 diagnostic scales, positive valence was positively related to narcissism and negatively to schizoid, avoidant, and dependent personality disorders. Finally, positive valence had strong positive correlations with the RSES and NPI. Negative valence had moderate-strong positive correlations with several SNAP-2 temperament and trait scales, as well as the diagnostic scales, including mistrust, manipulativeness, aggression, self-harm (both low self-esteem and suicide proneness), eccentric perceptions,

and detachment, as well as paranoid, schizoid, schizotypal, antisocial, borderline, and avoidant personality disorders. Negative valence correlated negatively with the RSES.

Next, Simms (2007) fit a series of hierarchical regression models to determine whether positive and negative valence had incremental validity in predicting personality pathology over the Big Five. Positive valence led to increased predictive validity for narcissistic and histrionic personality disorders, accounting for an additional 13% and 2% of variance, respectively. It also accounted for a significant amount of variance for self-harm (including low self-esteem and suicide proneness), positive temperament, exhibitionism, and entitlement, accounting for an additional 15% of the variance in entitlement. Negative valence significantly predicted schizoid, schizotypal, antisocial, borderline, narcissistic, and avoidant personality disorders (the amount of variance accounted for ranged from 1% to 6%), as well as several trait and temperament scales including manipulativeness, aggression, self-harm (including low self-esteem and suicide proneness), eccentric perceptions, and workaholism. In sum, positive and negative valence had links with many scales related to self-evaluative processes, as expected, but several unexpected connections were also observed, indicating they have a broader relevance for personality pathology than previously though.

Although their findings differed somewhat (perhaps due to methodological differences), collectively, Durrett and Trull's (2005) and Simms's (2007) results confirm the primary hypothesis; that is, positive and negative valence are significantly related to particular aspects of psychopathology and have incremental validity over the Big Five. In terms of specific hypotheses, results from these two studies offer mixed support.

As described above, positive valence entails a high sense of self-worth and grandiose feelings of self-importance (Waller 1999). As expected, it is related to high self-esteem and narcissism and related traits such as entitlement (Simms 2007; cf. Durrett and Trull 2005, who conjectured the lack of significant association between narcissism and positive valence was due to incongruent

measures of the constructs). In fact, the strength of association is nontrivial. For example, the Big Five collectively accounted for 15% of the variance in narcissistic personality disorder while positive valence accounted for an additional 13%. Positive valence was unexpectedly related to any Axis I, substance use, or eating disorder (Durrett and Trull 2005), thus the lack of positive self-evaluation is highly relevant for Axis I disorders. Earlier work carried out by Benet-Martinez and Waller (2002) may shed some light on this. As discussed above, they factor analyzed evaluative adjectives and settled on a five factor solution. Two factors tapped different aspects of positive valence; the factor labeled “distinction” was marked by adjectives related to high status and being exceptional, and the factor labeled “worthlessness” was marked by adjectives related to being meaningless and unable. The former, distinction, is clearly related to the grandiose self-importance felt by those with narcissistic tendencies. The latter, worthlessness, taps into feelings germane to many Axis I disorders, such as mood disorders (APA 2013).

In contrast, negative valence, which is marked by adjectives such as evil (Waller 1999), was surprisingly unrelated to Axis I disorders. Durrett and Trull (2005) maintained that such disorders entail an absence of positive self-evaluation, rather than a presence of negative self-evaluations. Such negative self-evaluations do, however, seem to be salient for personality disorders and maladaptive personality traits (Durrett and Trull 2005; Simms 2007). Indeed, negative valence was significantly related to many personality disorders and related traits. For example, as expected, Simms found that negative valence was positively related to antisocial and borderline personality disorders and manipulativeness, aggression, and self-harm. Durrett and Trull’s hypotheses that personality disorders characterized by low self-esteem, namely borderline, avoidant, and dependent personality disorders, would be positively related to negative valence were supported. Unexpectedly, several disorders and traits characterized by odd or eccentric features – paranoid, schizoid, and schizotypal disorders, and eccentric perceptions – were related to

negative valence. Simms offered two possible explanations for this finding. First, cognitive and perceptual distortions typical of these disorders could apply to self-evaluations. That is, those with schizotypal personality disorder, for example, have a distorted negative self-image, which is inconsistent with others’ view of them. Alternatively, those individuals might actually be in tune with their unusual thoughts and behaviors so the increased negative valence is accurate.

It is clear that positive and negative valence play a role in mental disorders and maladaptive personality. However, it is also apparent that the exact nature of their relationship with specific disorders needs further clarification. With regard to personality disorders, some relationships were as expected, some unexpected relationships arose, and some findings were not replicated across studies (Durrett and Trull 2005; Simms 2007). With regard to Axis I disorders, the hypotheses of the single study assessing their relationship with positive and negative valence were not supported. Durrett and Trull concluded that, “The lack of predictable, differential associations with personality or Axis I psychopathology that are theoretically coherent call into question the utility of these evaluative terms in clinical assessment” (2005, p. 366). We would argue that additional research needs to be conducted before drawing this conclusion. As Simms noted, Durrett and Trull’s methodology was different from his own, which may explain the lack of replication. As far as the emergence of unanticipated relationships, it is important to recognize that the outcomes of negative and positive valence are, to date, understudied so it is not surprising that we do not have a full appreciation of how broad their function is in psychopathology or any other domain.

Future Directions

As discussed above, outcomes associated with positive and negative valence, including psychopathology, remain understudied. In addition to clearly establishing the connections between these two evaluative factors and specific

disorders, potential explanations for the connections ought to be considered as well. For example, one should consider why low positive valence and substance use disorders are connected. There are at least six possible explanations for this. The first two postulate about the effect of personality on mental disorders. The vulnerability model suggests that premorbid personality traits act as risk factors. For example, individuals who do not feel special might be more inclined to engage in excessive drinking. The pathoplastic relationship hypothesis would suggest that positive valence would influence substance use disorders once they have already surfaced (i.e., their course, expression over time, and susceptibility to treatment). On the flip side, the scar and complication models examine the disorders' effect on personality traits. According to the scar model, mental disorders have an impact on traits. For example, those engaging in problematic substance use might begin to have less positive self-evaluations as a result of the behavior. The complication model is similar, but the disorder's effect on the trait is assumed to be temporary, at its height when the expression of the disorder is most severe. While these four hypotheses consider personality and psychopathology to be distinct constructs, the common cause and spectrum hypotheses assume differently. The common cause model suggests the two share a common root, such as a genetic risk factor. The spectrum model assumes, for example, that low positive valence and substance use disorders are different manifestations of a single process. Some combination of these six is also possible (Andersen and Bienvenu 2011; South et al. 2010). Longitudinal data would be ideal to disentangle the processes through which self-evaluations and psychopathology are related.

In addition to more fully understanding outcomes associated with positive and negative valence and the explanations for the associations, we need to gain an understanding of the lower-order structure of the traits. McCrae and Costa (1995) reasoned that basic dimensions of personality must meet three criteria, one of which is that the dimension must subsume more specific facets. Indeed, there is agreement

in the field that personality is hierarchically structured with broad traits, such as the Big Five, subsuming more narrow traits (Markon et al. 2005). Various five factor models outline a number of lower-order facets. For example, Costa and McCrae's (1995) model includes six facets for each of the Big Five. To our knowledge, there is only one study examining the structure of evaluative traits (Benet-Martínez and Waller 2002). Factor analyses point to five factors including unconventionality, stupidity, depravity, worthlessness, and distinction. The authors noted that the depravity factor resembles negative valence and that distinction and worthlessness are two facets of positive valence. Additional work is needed to elucidate the lower-order structure of these traits. This could potentially lead to increased understanding of their predictive validity. Examining only broad-level traits can obscure important personality-psychopathology (Walton et al. 2016) and other associations (Paunonen and Ashton 2001).

Not only is there a need for understanding the lower-order structure of personality traits, but it is also imperative to understand how these evaluative traits fit into the higher-order structure of personality and psychopathology. For example, Markon et al. (2005) identified an integrated hierarchical structure of normal and abnormal personality. Efforts have also been made to identify a metastructure that accounts for the covariation among mental disorders, personality disorders, and maladaptive personality traits (Wright and Simms 2015). Prior research points to two broad psychopathology dimensions, an internalizing factor that accounts for comorbidity in mood and anxiety disorders characterized by negative emotion, and an externalizing factor that accounts for comorbidity in substance use disorders and antisocial personality disorder characterized by disinhibition (e.g., Krueger et al. 1998). Adding normal and abnormal personality traits into the mix results in a five factor solution including dimensions of internalizing, disinhibition, psychoticism, antagonism, and detachment (Wright and Simms 2015). Knowledge of the location of positive and negative valence in such metastructures is lacking.

Conclusion

The seven factor model (Tellegen and Waller 1987) is one of many personality trait models put forth. While it has not garnered as much empirical support as the five factor model (McCrae and Costa 2003), for example, and it has its critics (Ashton and Lee 2001; McCrae and Costa 1995; McCrae and John 1992), there is some empirical evidence to support its validity (Almagor et al. 1995; Benet and Waller 1995; Church et al. 1998; De Raad and Hoskens 1990; De Raad et al. 1988; Smederevac et al. 2007) and utility (Durrett and Trull 2005; Simms 2007). As evidenced by the dates of the citations provided here, interest in validating the model seems to have waned, and the one field in which it is likely to have the greatest utility, psychopathology, is remiss in its attention to the model. Conceptually, it is clear how positive and negative self-evaluations play a role in psychopathology. What is missing is the body of empirical evidence elucidating this role. We have outlined several steps we feel as though ought to be taken in order for the model to make a real contribution to our understanding of psychopathology and possibly other areas.

Cross-References

- ▶ [Big-Five Model](#)
- ▶ [Lexical Approach](#)
- ▶ [Psychopathology](#)

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Sex Differences in Personality Traits

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Introduction

The history of research into sex differences in personality is long and at times controversial. In the introduction to a seminal text on sex

differences in psychological traits, Maccoby and Jacklin (1974) set out a series of questions that remain the core questions in the area today:

- Do sex differences in personality exist? If so, how big are the effects?
- Are these effects of a magnitude that they could meaningfully affect life decisions and outcomes?
- Moreover, if they do exist, why do they exist?

In this entry, we will consider the empirical evidence speaking to the existence, or not, of sex differences and consider how these findings relate to the varied theoretical positions that seek to explain sex differences or a lack thereof. The focus of this entry is primarily on differences in subclinical trait measurement. However, we provide brief discussion of the evidence for sex differences in psychopathological traits. Finally, we consider some of the methodological debates in the study of sex differences in personality, particularly with respect to the appropriate estimation of the magnitude of differences.

Definitions

Two key definitions are important with respect to the content of this entry. First, here we are discussing sex differences and differentiate sex from gender. By sex, we are referring to the biological designation to male or female. By gender, we take a much broader definition encapsulating the identification of an individual with a given gender that may have multiple biological, psychological, and sociological influences. This distinction is consistent with those adopted by organizations such as the World Health Organization, according to which sex refers to the biological and physiological characteristics that define men and women and gender refers to the socially constructed roles, behaviors, activities, and attributes that a given society considers appropriate for men and women.

Second, this entry concerns differences in personality traits, where traits are defined in a classical sense as relatively stable and enduring patterns

of thoughts, feelings, and behaviors. Thus, we are distinguishing traits from states, where states are defined as more momentary fluctuations in given social contexts.

Theoretical Perspectives on Sex Differences

The existence and importance, or not, of sex differences in personality have been argued from a number of theoretical perspectives. Broadly speaking, these can be split into three categories: evolutionary, social role, and methodological or artifact explanations.

In evolutionary terms, human personality evolved as a set of characteristics that conferred advantage to some over others in the context of a wide variety of adaptive challenges across evolutionary time. Therefore, to the extent that these challenges differed for males and females, so may the average level of traits across these groups. Common examples discussed would include the differential traits required by males and females for the successful rearing of children. In our distant past, females may have required higher levels of nurturing and agreeable traits in order to ensure the safe upbringing of their children – characteristics less essential for males who would have invested less time in the rearing of children. Males on the other hand may have required increased levels of traits associated with success in competition for resources, such as dominance, aggression, or risk-taking.

Sociocultural explanations come in a variety of forms but broadly argue that it is the features and properties of modern social context that give rise to perceived sex differences in personality. For example, social role model perspectives (e.g., Eagly 1997) would suggest sex differences arise from the different social role expectations on males and females with respect to the core determinants of personality – namely, thoughts, feelings, and behaviors. These expectations manifest and are shared early, shaped by the differential ways those around us, society broadly speaking, reward and punish behaviors. These schedules of reinforcement

and punishment have led some to label such explanations as cognitive social learning (Hyde 2014). The various opportunities or restrictions placed by the societies in which individuals live come to govern the behaviors that are expressed by the males and females within them.

Lastly, some have argued that estimates of sex differences from psychometric tools reflect a measurement artifact. Specifically, this position holds that males and females possess different stereotypes as to the appropriate characteristics of males and females. When responding to a self-report inventory, these groups respond in a socially desirable manner with these differing stereotypes in mind. As such, responses reflect socially desirable responding toward these differing sex stereotypes.

Clearly, these competing theories of sex differences can be supported by differing patterns of observed difference. For example, given a focus on evolutionary time scales, one would expect more cross-cultural consistency in sex differences from an evolutionary perspective than may be expected from a sociocultural perspective. Considering the latter, we may expect to see similar patterns from cultures, which share relevant societal features, and differing patterns across those which do not. Similarly, such differences in cultures may lead to differing gender stereotypes, and thus under an “artifact” explanation, we may expect similar cross-cultural patterns. However, sociocultural and artifact explanations may be differentiable by consideration of patterns across self- and other reports, as well as from explicit and implicit measurement of traits. Specifically with respect to the latter, if targeted response bias is the primary driver of observed differences, then such differences should disappear when personality is assessed reliably by means for which the intention of measurement is not known to the respondent and thus less susceptible to targeted responding.

Empirical Evidence for Sex Differences

A large number of research studies and psychometric inventory manuals have published data on the differences between males and females in

personality traits. These studies generally report standardized measures of mean difference, such as Cohen’s d , where d around 0.20 is considered small, around 0.50 is considered moderate, and around 0.80 is considered large. Methodological issues in this approach are discussed later in this entry.

Many of these inventories are organized hierarchically, such that the broad- or domain-level traits subsume narrower constructs, often referred to as facets. For example, Table 1 summarizes the organization of three broad taxonomies of personality, the five-factor model (FFM; Costa and McCrae 1992), the HEXACO model (Lee and Ashton 2004), and the 16 Personality Factor model (16PF; Conn and Rieke 1994), which are discussed at greatest length in this entry. Table 1 orders by column those domains across taxonomies which most closely align. However, it is important to note that the existence of these, and indeed the wide array of other personality taxonomies, stems from competing arguments with respect to both the appropriate number, organization, and labeling of domains and facets, primarily through the application of factor analytic methods. Thus, while Table 1 is given as a simplifying organization for this entry, the reader should not take from it that there is agreement on the positioning and content as presented.

When considering sex differences in personality, this higher-order structure poses an interesting question. Are sex differences in facets within a given domain all in a consistent direction? This is important because if facets within a domain show sex differences that run in opposite directions, these will potentially cancel out completely or reduced the observed sex differences at the domain level. In the discussion that follows, we discuss broad domains and facets under the ordering presented in Table 1, alongside a number of non-overlapping and individual traits argued to display sex differences.

Summarizing Domain-Level Differences

In the discussion that follows, we present empirical results in terms of various metrics of effect size for the difference between males and females.

Sex Differences in Personality Traits, Table 1 Hierarchical organization of the FFM, HEXACO, and 16PF5

FFM	Extraversion	Openness to experience	Agreeableness	Conscientiousness		
Neuroticism	Warmth	Fantasy	Trust	Competence		
Anger, hostility	Gregariousness	Aesthetics	Straightforwardness	Order		
Depression	Assertiveness	Feelings	Altruism	Dutifulness		
Self-consciousness	Activity	Actions	Compliance	Achievement striving		
Impulsiveness	Excitement-seeking	Ideas	Modesty	Self-discipline		
Vulnerability	Positive emotions	Values	Tender-mindedness	Deliberation		
HEXACO						
Emotionality	Extraversion	Openness to experience	Agreeableness	Conscientiousness	Honesty-humility	
Fearfulness	Expressiveness	Aesthetic appreciation	Forgiveness	Organization	Sincerity	
Anxiety	Social boldness	Inquisitiveness	Gentleness	Diligence	Fairness	
Dependence	Sociability	Creativity	Flexibility	Perfectionism	Greed avoidance	
Sentimentality	Liveliness	Unconventionality	Patience	Prudence	Modesty	
16PF5						
Anxiety	Extraversion		Tough-mindedness	Self-control	Independence	
Emotional stability	Warmth		Warmth	Liveliness	Dominance	
Vigilance	Liveliness		Sensitivity	Rule-consciousness	Social boldness	
Apprehension	Social boldness		Abstractedness	Abstractedness	Vigilance	
Tension	Privateness		Openness to change	Perfectionism	Openness to change	
	Self-reliance					

Sex Differences in Personality Traits, Table 2 Selected findings on sex differences in FFM domains in adult Western samples

	Feingold (1994) ^a	Costa and McCrae (1992) ^b	Marsh et al. (2010) ^c	Vianello et al. (2013)	Vianello et al. (2013)	Weisberg et al. (2011)	Schmitt et al. (2008)
<i>Study features</i>							
Single sample vs. meta-analysis	Meta-analysis	Single sample	Single sample	Single sample		Single sample	Single sample
N	105,742 <i>k</i> = 7–25	1,000	3,390	14,348		2,643	2,793 (USA)
Age (years)	Varied	Range, 21–96	Mean, 19.51 SD, 0.77	Mean, 27.98 SD, 12.17		Mean, 27.2 SD, 14.4	College sample
Observed vs. latent	Observed	Observed	Latent	Observed Explicit	Observed Implicit	Observed	Observed
Difference measure	<i>d</i> -score	<i>d</i> -score	SD difference	<i>d</i> -score	<i>d</i> -score	<i>d</i> -score	<i>d</i> -score
Personality measure	Multiple	NEO-PI-R	NEO-FFI	40-item adjective 50-item IPIP	IAT ^d	BFAS	BFI
N	-0.27 -0.04	-0.38	-0.52 to -0.71	-0.28 -0.20	0.089	-0.39	-0.53
E	-0.14 0.49 0.09	-0.10	-0.29 to -0.44	-0.16 -0.22	-0.004	-0.08	-0.15
O	0.13	-0.05	-0.33 to -0.38	0.18 -0.04	0.116	-0.02	0.22
A	-0.25 -1.07	-0.55	-0.16 to -0.31	-0.36 -0.33	-0.039	-0.48	-0.19
C	-0.07	0.05	-0.55 to -0.67	-0.29 -0.30	-0.075	-0.06	-0.20

Note: All results presented such that negative values indicate a higher score for females. This presentation may differ from the original texts. *BFAS* big five aspect scale, *IPIP* international personality item pool, *BFI* big five inventory.

^aFeingold presented estimates grouped under FFM (see Table 5 in original paper). Median *d*-scores presented. *N* Anxiety/Impulsiveness, *E* Gregariousness/Assertiveness/Activity; *O* Ideas; Agreeableness, Trust/Tender-Mindedness; Conscientiousness, Order

^bCalculated from means and standard deviations of Appendix B in the test manual

^cEstimates of difference are derived from a variety of different invariance models under different assumptions. See original Table 4, p. 482

^dImplicit measure of personality based on an Implicit Association Task

Negative estimates indicate that females have higher mean scores than males, while positive estimates indicate males have higher mean scores than females.

Tables 2 and 3 summarize the broad pattern of domain-level differences in the FFM and HEXACO traits. The studies included are not exhaustive, but represent examples of large-scale

research studies or meta-analyses on sex differences.

Overall, across studies and inventories, differences range from essentially zero to a maximum of approximately 1.2 on a *d*-score metric. A majority of the differences identified across studies, at the domain level, would fall in the small to moderate range (Cohen’s

Sex Differences in Personality Traits, Table 3 Selected findings on sex differences in HEXACO domains in adult Western samples

	Lee and Ashton (2016)	Lee and Ashton (2016)	De Vries, Ashton, and Lee (2009)	De Vries, Ashton, and Lee (2009)	Ashton and Lee (2009)	Lee and Ashton (2004)
<i>Study features</i>						
Single sample vs. meta-analysis	Single sample (online Sample)	Single sample (Student Sample)	Single sample		Single college sample	Single sample
N	100,318	2,868	1,352		645	409
Age (years)	Mean, 37.1 SD, 14.1	Mean, 20.9 SD, 3.9	Mean, 47.9 SD, 15.0		-	Mean, 22.3 SD, 6.3
Observed vs. latent	Observed	Observed	Observed	Observed	Observed	Observed
Difference measure	d-score	d-score	d-score	d-score	d-score	d-score
Personality measure	HEXACO-100	HEXACO-100	HEXACO-PI-R	HEXACO-100	HEXACO-60	HEXACO-PI
H	-0.42	-0.49	-0.44	-0.38	-0.38	-0.59
E	-0.92	-1.23	-0.86	-0.95	-1.23	-1.08
X	0.03	0.09	0.07	0.06	-0.02	-0.13
A	-0.01	0.13	0.02	-0.00	0.15	0.11
C	-0.11	-0.28	-0.00	-0.02	-0.46	-0.26
O	0.14	0.04	0.15	0.05	-0.05	0.22

Note: All results presented such that negative values indicate a higher score for females. This presentation may differ from the original texts

$d = < |0.40|$). The only differences across Tables 2 and 3 to be consistently larger than this are the HEXACO differences in Honesty-Humility and Emotionality, which we discuss further in the next sections.

Neuroticism

Across all studies reported in Tables 2 and 3, females have been consistently shown to have higher mean scores than males for Neuroticism (FFM) and Emotionality (HEXACO). Across inventories, the magnitudes of these effects vary slightly. Large variation can be seen across personality taxonomy (FFM vs. HEXACO), where Neuroticism in the FFM shows generally small to moderate effects, while Emotionality shows generally large effects.

The consistency and magnitude in the domain-level effects may be reflective of the fact that the facets within these domains show consistent sex differences in both direction and magnitude. With respect to studies utilizing the FFM (e.g., Costa, Terracciano and McCrae 2001, Table 2; Weisberg

et al. 2011), we see higher scores for females on all facets with Cohen’s d ranging from -0.09 to -0.44 . Considering the HEXACO taxonomy, Lee and Ashton (2016) report higher scores for females on all facets with Cohen’s d ranging from -0.53 to -1.08 . Thus across studies and taxonomies, at the domain and facet level, consistent differences in Neuroticism-related traits have been observed.

Extraversion

At the domain level, Extraversion as operationalized in the FFM inventories shows a small (d range -0.08 to -0.44) and consistent difference with females scoring higher than males. Within the HEXACO inventories, this difference is reversed, with males generally scoring higher than females, but the effects here are small (<0.10). Taken at face value, this would suggest minimal overall sex differences in Extraversion-related traits, with any variability seen dependent on specific operationalizations of Extraversion.

However, if one considers the facet-level associations, further variation is revealed. Again,

using the same studies as reference points, Costa, Terracciano, and McCrae (2001, Table 2; see also Weisberg et al. 2011) report facet-level differences within Extraversion for FFM-based inventories which differentially support male versus female higher scores. For example, Costa, Terracciano and McCrae (2001) show higher scores for males in the facets of Assertiveness ($d = 0.10$ to 0.27) and Excitement-Seeking ($d = 0.18$ to 0.38) and higher scores for females for all other facets (range $d = 0.04$ to -0.33).

In the case of the HEXACO, studies by Lee and Ashton (2004) and Lee and Ashton (2016) report differences in the facets of Extraversion differentially showing higher scores for males and females, of small to moderate effect size (Social Self-Esteem = $0.13/-0.30$; Social Boldness = $0.12/0.30$; Sociability = $-0.11/-0.31$; Liveliness = $-0.05/-0.15$). Thus, for Extraversion-related traits, the domain-level patterns of low to no sex differences present only a partial picture, as at the facet level, we see larger differences with a mixed pattern of male versus female higher scores.

Openness

At the domain level, Openness and related traits show a largely consistent, but small, difference with males scoring higher than females. The exception here is the study by Marsh et al. (2010) which, using a latent variable approach, found females to score higher than males. A similar pattern of male higher score, but with smaller effects, is seen for the HEXACO inventories (largest $d = 0.22$). Once again, this domain-level difference masks a much greater degree of variability in the direction of difference and effect sizes at the facet level.

Costa, Terracciano, and McCrae (2001) report male higher scores for Fantasy ($d = 0.16$), Values ($d = 0.07$), and Ideas ($d = 0.32$), the latter being consistent across US adults, US college age individuals and adults from multiple other cultures. From the same study, females show consistently higher scores for Aesthetics ($d = -0.34$), Feelings ($d = -0.28$), and Actions ($d = -0.19$). Weisberg et al. (2011) report higher scores for males in the BFAS narrow scale of Intellect ($d = 0.22$) but higher scores for females in Openness

($d = -0.27$). Perhaps unsurprisingly, the domain-level Openness difference here was practically zero. Again in the HEXACO, Lee and Ashton (2004) and Lee and Ashton (2016) report varied facet differences for Openness (Aesthetic Appreciation = $-0.29/-0.39$; Inquisitiveness = $0.52/0.62$; Creativity = $-0.00/0.25$; Unconventionality = $0.22/0.31$).

Agreeableness

Agreeableness is an interesting domain to consider, as it is one of the places in which the taxonomies of the FFM and HEXACO differ. In the case of the FFM, consistent sex differences are seen at the domain level, with females scoring higher than males and effect sizes ranging from small to large (see Table 2). Like Neuroticism, the facets of Agreeableness as measured by FFM inventories are consistent, favoring females, with effect sizes for those differences ranging from d of -0.03 to -0.43 (Costa, Terracciano and McCrae 2001).

The pattern for the HEXACO depends on which domain trait we consider. The namesake Agreeableness within the HEXACO inventories shows small sex differences with the male-female dominance varying across study. This is also reflected at the facet level where small differences in both directions are observed (e.g., Lee and Ashton 2016, Table 1).

However, the pattern is different if we consider Honesty-Humility. Much like Agreeableness from the FFM inventories, Honesty-Humility shows a consistent difference with females scoring higher than males, and moderate effect sizes at both the domain level (d range -0.38 to -0.59 , Table 3) and across facets (Lee and Ashton 2004, d range -0.28 to -0.71 ; Lee and Ashton 2016, d range 0 to -0.59). The facet with the smallest sex differences is Sincerity, which is generally close to zero across samples.

Conscientiousness

Conscientiousness is another of the domains where the specific operationalization of the trait across taxonomy appears to make a difference with respect to the overall consistency of observed effects. In both FFM and

HEXACO inventories, the domain-level difference shows females tending to score higher than males. In the case of the FFM, the effect sizes range from d 's of 0.05 to -0.67 (Table 2). For the HEXACO inventories, we see much the same (Table 3), with a maximum difference of -0.46 .

Once again (and at fear of sounding repetitive), the generally small to moderate difference may reflect differential patterns of effects in the facets. As reported in Costa, Terracciano and McCrae (2001), while the FFM Conscientiousness facets of Competence and Deliberation show males scoring higher, all other facets show near-zero difference, or differences favoring females. In the HEXACO on the other hand, the facet-level effects reported in Lee and Ashton (2004) and Lee and Ashton (2016) show only one facet-level difference in favor of males, that being Prudence in the online self-report sample ($d = 0.10$).

The Relation Between Facet Level and Global Differences

As documented above, and perhaps unsurprisingly, when larger, consistent differences are observed at the domain level, all lower-level facet differences are (a) in the same direction favoring either males or females and (b) more consistently of larger magnitude. However, the fact that consistent facet associations within domain are not ubiquitous could be viewed as problematic. Indeed, Costa, Terracciano and McCrae (2001) stop short of estimating domain-level differences for all FFM due to the patterns of facet difference.

Such patterns may perhaps lead us to reflect differently on the magnitude of global differences. If a set of facets coded positively for a domain show different patterns of mean difference by sex in the simple sum scores, it should be no surprise that these differences average out to near-zero differences when we look at sum score differences by sex at the domain level. This is not to say that the domain-level effect is not an appropriate level of analysis, but simply to say that we may want to consider the various ways in which such a difference, or lack thereof, may occur.

Differences Within Males and Females Versus across Males and Females

As has been noted, the topic of sex differences in personality is considered by some to be controversial. Aside from any discussion of the social and political ramifications of such lines of research, one powerful argument concerns the magnitude of the differences within and between groups. Essentially, this argument runs that within males, there is a greater difference between those at the lower and higher ends of the distribution than there is between the average male and the average female. The same would be true of females. Given that the within-group differences at a population level may be larger than the between-group differences, it follows to ask whether the comparison across groups is a reasonable focus of study.

Relatedly, it is also important to contextualize the magnitude of mean differences. Standardized estimates of mean difference, whether univariate or multivariate, can be expressed as the proportion of overlap in score distributions. Under the assumptions of a normal distribution with equal standard deviations, when d denotes a small effect (0.20), approximately 58% of one distribution (say males) is above or mean of the other (say females), and the distributions have approximately 92% overlap. When d denotes a medium effect (0.50), approximately 69% of the distribution of one group is above the mean of the second, and the distributions have approximately 80% overlap. Finally, when d denotes a large effect (0.80), approximately 78% of one distribution will be above the mean of the other, and the distributions have approximately 69% overlap.

Given the general size of the mean differences associated with research on sex differences in personality, the score distributions of males and females are likely to be heavily overlapping.

Emergence and Change in Sex Differences Across Life Course

Extant evidence points to a relative stability in the estimates of sex differences in domains across studies, although the location of the most

meaningful differences, be that at domain or facet level, remains debated. A further interesting question to ask with respect to sex differences is when do differences emerge and do they remain stable across the life course?

In a large-scale meta-analysis, Else-Quest et al. (2006) investigated sex differences in temperamental traits. Historically, temperament has been argued to be the developmental precursor to later life personality, a concept which has been developed over time and supported by a large body of empirical research (see Rothbart 2011, for review). Else-Quest et al. (2006) identified studies in children less than 7 years old and meta-analytically derived estimates of sex differences under three broad groupings of characteristics, Effortful Control, Negative Affectivity, and Surgency. In adult personality trait nomenclature, these groupings would approximately align with conscientiousness, neuroticism, and extraversion.

With respect to Effortful Control, effect sizes for ten dimensions were calculated with all eight significant differences favoring females. The largest of the effect sizes ($d = -1.01$, $k = 6$) was for Effortful Control. Inhibitory Control ($d = -0.41$, $k = 22$), Perceptual Sensitivity ($d = -0.38$, $k = 38$), Low Intensity Pleasure ($d = -0.29$, $k = 20$), and Attention ($d = -0.23$, $k = 9$) all showed small to moderate effect sizes. For Negative Affectivity, all effect sizes were small. Of the three dimensions which showed significant differences, two behavioral styles (Difficult, $d = 0.13$, $k = 28$; Intensity, $d = 0.10$, $k = 37$) favored males, and one psychobiological dimension (Fear: $d = -0.12$, $k = 34$) favored females. Finally for Surgency, small to moderate effect sizes favoring males were found for Activity (Behavioral Style, $d = 0.33$, $k = 50$; Psychobiological, $d = 0.23$, $k = 34$), High Intensity Pleasure ($d = 0.30$, $k = 18$), and Surgency ($d = 0.55$, $k = 8$).

Focusing on the later period of development between ages 12 and 17, De Bolle et al. (2015) analyzed data from 4850 adolescents from across 23 cultures who had completed the NEO-PI-R-3 as a measure of the FFM. Taking into account cultural differences, they found that females scored higher than males in Openness and Conscientiousness at all ages. No sex differences in Neuroticism were

present at ages 12 and 13, but from age 15 onward, mean differences favoring females emerged for the facets of Anxiety, Depression, and Vulnerability. Interestingly, though not studied directly by De Bolle et al. (2015), this is also an approximate point in development where males and females begin to diverge on clinical-level anxiety and depression. Patterns for Extraversion were complex, with females scoring more highly for Warmth and Gregariousness across development and males scoring higher on Excitement-Seeking. Overall, while patterns for other traits were complex, by the age of 17, sex differences in domains were largely equivalent in size and direction to estimates from adult samples.

Analysis of age by sex interactions showed some interesting patterns. For example, there was a significant age by sex interaction for Neuroticism, indicating that from ages 12 to 17, both boys and girls decreased in Neuroticism but boys did so at a greater rate. As such, the difference in Neuroticism by age 17 was larger. The same pattern was found for two facets of Neuroticism, Anxiety and Vulnerability, suggesting these may be the driver of the domain-level effect. Two further facets, Positive Emotions (Extraversion, male decrease greater than female decrease) and Ideas (Openness, male decrease less than female decrease), showed increasing sex differences across adolescence. Conversely, for the facets of Assertiveness (Extraversion, male increase, female decrease), Aesthetics (Openness, male increase), and Achievement Striving (Conscientiousness, male increase greater than female increase), the magnitude of sex differences decreased from ages 12 to 17.

The findings for Assertiveness are especially interesting when considered in combination with the results from other samples. At earlier ages, females score more highly than males. Across adolescence, this difference erodes such that in the later teens, there is no marked sex difference. Yet by adulthood, males show consistently higher scores in this facet. De Bolle et al. note, and it is important to emphasize, that in a majority of cases, both the effects (interactions) and the overall mean differences reported were generally small.

In a massive cross-sectional study ($n = 1,267,218$), Soto et al. (2011) report on trait differences from ages 10 to 65, reporting different trends for males and females and thus allowing consideration of sex differences across the life course. The authors based their study on FFM domain estimates as measured by the Big Five Inventory (BFI) delivered online as part of the Gosling-Potter Internet Personality Project. The BFI is primarily a domain measure of the FFM, but facets of Self-Discipline and Order (Conscientiousness), Altruism and Compliance (Agreeableness), Anxiety and Depression (Neuroticism), Activity and Assertiveness (Extraversion), and Ideas and Aesthetics (Openness) can be scored from available items.

Based largely on theory and research evidence concerning the social roles and cognitive developments across adolescence into adulthood, Soto et al. (2011) hypothesized that Neuroticism and its facets would increase for females across adolescence, while male trajectories would remain flat, thus increasing the sex difference, while in later adulthood, Neuroticism would decline for both males and females. Given the size of the sample, statistical significance tests are not reported, with trajectories displayed graphically and with the magnitudes of differences presented in a *T*-score metric. Here *T*-score differences of 2 points are small, 5 points are medium, and 8 points are large, effects.

Results for Neuroticism were largely as predicted. At age 10, there were minimal sex differences in Neuroticism and its facets. In the mid-teens, sex differences were at their peak at approximately 5 points. From around the mid-20s, both males and females showed a decline, with females declining more steeply from the late 20s until around the age of 50. From this point on, the sex difference in Neuroticism was stable at 1–2 points.

Results for Conscientiousness showed marked decreases from ages 10 to approximately 15 (3 *T*-score points), before displaying a sharp increase from around ages 15 to 20. This increase was steeper for females and established an approximate 2-point female advantage which remained consistent throughout the life course. Agreeableness displayed similar, but less

pronounced, trends. Females had higher scores throughout the life course, with the difference increasing from approximately 1 point in youth to approximately 2 points in adulthood.

Extraversion decreased for both males and females from ages 10 to around 15, more sharply in males (~5 points) than females (~3 points), and then remained largely stable until later life. From age 50, the approximate 2-point difference in favor of females closed such that by 65, there was no discernible sex difference. Finally, the pattern for Openness was much the same, although the adult advantage in this instance was in favor of males. The difference seems primarily driven by the Ideas facet and a marked drop in female scores between the ages of 15 and 20, creating a difference that then persists across the life course.

Collectively, these results present a complex pattern of sex differences across adolescence, with small but consistent adult differences emerging in the late teens and early 20s. These differences largely persist across later life. However, similarly to the cross-sectional estimates of mean difference, these patterns are not necessarily consistent within a given broad domain, with facets displaying differing patterns of development.

Information on the life-course development of differences in traits may be especially important for differentiating competing theories. For example, major changes in the pattern of sex differences that emerge with hormonal changes in development may point toward a biological basis for differences. However, it is necessary to also take into account the rapidly changing social contexts in emerging adulthood and adolescence that may – at the same time – serve to reinforce societal gender stereotypes. Further, changes in the magnitude of sex differences in adulthood that correspond to major life transitions (marriage, birth of children, etc.) may point to explanations based on social roles.

Sex Differences in Personality Change

The studies discussed above are, though large scale, cross-sectional, meaning that the estimates of differences at a particular age are based on a discrete subsample to all other age groups. Such

studies are unable to speak to whether there are sex differences in within-person personality *change* across aging. One hypothesis concerning such change extends from the social role perspective on mean-level differences and states that, through mid-life, shifts in typical gender/sex roles lead to differential changes in trait levels. As Roberts et al. (2006) note, one may believe males would become more nurturing, for example, as family roles increase in importance against more self-focused outcomes.

Terracciano et al. (2005) analyzed data from a large sample ($n = 1944$) of US adults who had completed the NEO-PI-R on multiple occasions between 1989 and 2004. The authors found evidence of baseline sex differences consistent with the cross-sectional results discussed above, but no evidence that sex was predictive of change across time. Similar patterns of results were found in a meta-analysis of personality change by Roberts et al. (2006). Synthesizing results from 92 studies, while mean-level change was evident across the life and most marked in adolescence, no statistically significant relationships between sex and mean-level change were identified. Further, Ferguson (2010) meta-analyzed stability coefficients for personality change and found females displayed fractionally higher stability than males, but the difference was not statistically significant. In totality, there is little evidence from within person longitudinal studies that personality changes differentially by sex. However, there remain comparatively few studies of this type.

Cross-Cultural Stability of Differences

The studies discussed above largely focus on Western cultures. Here we briefly consider the stability of sex differences across cultures. Schmitt et al. (2008; note direction of differences reversed for consistency with the rest of this entry) compared sex differences in FFM traits across 55 cultures using scores from the BFI. Neuroticism showed the most consistent differences, with only two cultures (Botswana and Indonesia) showing higher scores for males, with a mean d of -0.40 . The most varied estimates were for

Openness, where in 37 cultures a difference was found favoring men and in 18 a difference favoring women, with a mean d of 0.05.

Consistent with these findings, Bleidorn et al. (2013) investigated personality development across the life course in a sample of 884,328 individuals from 62 nations, using data from the previously discussed Gosling-Potter Internet Personality Project. Results indicated differences in Neuroticism, Extraversion, Agreeableness, and Conscientiousness in favor of women and Openness in favor of men. Additionally, they showed significant variability in the size of these differences across cultures.

How then does evidence from cross-cultural studies feed into the evaluation of the various theoretical explanations for sex differences? Schmitt et al. (2008) argue that the variability and pattern of sex differences cross-culturally suggest that social role explanations for sex differences are less plausible. If social roles were to play a key causal explanatory role in sex differences, then one may expect to see smaller differences in countries with greater equality and larger differences in countries with more inequality, less access to education for women, reduced access to certain professions, etc. In fact, the reverse pattern is true, and larger differences tend to be seen in Western industrialized nations. Instead, Schmitt et al. suggest that the pattern of differences may be more consistent with evolutionary explanations and tentatively introduce the possibility that gene environment interactions may be at play in fostering increased personality dimorphism in research-rich environments.

Differences in Variability

The studies presented thus far have primarily focused on sex differences in mean levels of a given trait. However, a small but growing number of studies have considered whether males and females also differ with respect to variability in traits. Across a variety of domains, men show more variability than women, and as such, it remains an open question whether the same is true for personality traits.

The theoretical arguments for any such differences draw on a number of perspectives. Social role explanations would posit that females have more constrained social experiences in many cultures and, as such, have more restricted opportunities to express and develop varying personality profiles when compared to men. Evolutionarily it has been suggested that the increased male variability is a result of the many possible behavioral strategies that would be equally successful with respect to selection.

Thus far, the patterns of results are themselves highly variable. In a study across four cultures, Borkenau et al. (2013a) found that based on self-reports of the FFM traits, males and females did not differ in variability. However, greater variance in informant ratings of male versus female targets was found for all FFM domains other than Neuroticism. Borkenau et al. (2013b) aimed to replicate these findings across 51 cultures based on informant ratings of target individuals. Again, a reasonable degree of trait across culture variability was found; however, the most consistent pattern was that males displayed more variability than females across traits in 34 of the 51 cultures studied.

Evidence is still relatively limited for differences in trait variability. Studies to date have generally been based on evidence from measures of variability at the between-person level, observing whether or not these metrics differ across the sexes. However, the recent growing interest in the use of experience sampling methods (assessing personality “in the moment” many times a day in an intensive data collection burst) may offer fresh perspective on the topic. Here rich information on daily fluctuations in traits and states can be gathered. Such data provides within-person information on personality variability which will undoubtedly be hugely informative with respect to understanding differences in variability.

Summary of Empirical Findings

How then should we evaluate the current state of evidence for sex differences in personality traits? One of the most well-known perspectives on

psychological sex differences is the gender similarities hypothesis (GSH) proposed by Hyde (e.g., 2014 for recent review). The GSH simply put is that males and females are more similar to one another on most traits than they are different and that large differences between the sexes do not exist or are rare. In general, this position appears reasonable at the domain level. The estimates presented in this entry thus far rarely reach the d of 0.80 defined above as being considered a large effect across groups. Indeed, most would fall slightly above or below small effects ($d \approx 0.20$). However, as we have also seen, estimates of differences for broad domains that are sum score aggregates of lower-level facets may mask larger differences in these facets due to the different directions of differences in positively relating facets. Further, other methodological considerations may be influencing the current pattern of reported associations.

Methodological Issues in Sex Difference Research

Single Studies Versus Meta-Analysis

The studies discussed in this entry have been limited to either meta-analytic estimates of sex differences, estimates reported in the context of original descriptions of personality taxonomies, or large-scale single studies. By and large these studies have reported a standardized measure of difference based on some form of average or sum scores of sets of items (an observed score).

Hyde (e.g., 2014) has argued in favor of meta-analytic estimates of sex differences. Meta-analysis involves identifying sets of published and unpublished studies that provide estimates of an effect of interest. The individual effects are combined into a single estimate of the effect of interest, and an estimate of the variability in the effect across studies. The primary logic for such an approach is that the estimate derived from aggregating many studies, if the heterogeneity across studies can be understood, will always be an improvement on the estimate from any single study sample. With enough information from the original studies, meta-analysis can also make

adjustments for the use of different tools to measure traits, adjust for reliability of measurement, and include other variables (age, culture, etc.) which may act as moderators of estimates of difference.

Undoubtedly, meta-analytic estimates carry advantages over the estimation of group differences from a single study. However, the quality of the meta-analytic estimate will be constrained by the quality of the original studies. As such, any methodological weaknesses in these studies will transfer to the meta-analytic results.

Measurement Invariance

In the study of group differences, one assumption above all else is critical to drawing valid inferences about the magnitude of differences, yet it often remains untested. Specifically, this assumption is that the particular tool being used to assess the trait of interest performs equivalently in males and females or, to put it another way, that the same trait is being compared in each group.

As a concrete example, suppose we are interested in whether there is a difference in Neuroticism as measured by the NEO-PI-R between males and females. We administer the scale to a large group of randomly sampled participants and create a simple or weighted sum score as per the instructions in the test manual. We then conduct a statistical test of mean difference (a *t*-test) and calculate the associated effect size using Cohen's *d*. What we have assumed here is that the equations that relate the underlying trait of Neuroticism to the item responses in the groups are identical, such that we can use the same scoring rules across groups and have a score that measures the same thing in these groups. If this assumption does not hold, then any estimate of difference is invalid.

The procedure for testing this assumption is known as measurement invariance within the factor analytic setting or differential item functioning within item response theory. The process of measurement invariance involves specifying a statistical model that relates each of a set of measured items (e.g., the questions in a survey tool) to a latent variable representing the personality trait they are hypothesized to measure. The same

model is estimated for males and females, and, sequentially, constraints are placed on the model equating different parameters. The difference in model fit between the constrained and unconstrained models provides a statistical test of whether the assumption that these parameters are equal across groups is supported or not. If they are constrained equal, and model fit significantly declines, then it is not reasonable to assume the parameter is the same in both groups.

Measurement invariance can be tested at different levels, increasing with respect to the number of equality constraints placed across groups. Different types of comparison across groups require different levels of invariance constraints. In the context of group difference tests, a minimum requirement is what is referred to as scalar (or partial scalar) invariance (for details on levels of invariance with an application to personality measurement, see Marsh et al. 2010). If scalar invariance holds, then it is reasonable to test for latent mean differences across groups. Note, however, that this is not the same as stating that mean differences can be tested in sum scores of test items. For this to be a valid test of mean differences, strict invariance (a more constrained model) is required to hold. This is because if the item residuals are not the same across groups, differential item reliability across groups can bias observed mean difference tests.

To the authors' knowledge, there are no published examples of strict measurement invariance being tested prior to observed mean differences being evaluated on a sum score, nor examples of this level of invariance holding in standardization (or other large) samples being used in the rationale for testing observed score mean differences. Further, there are a limited, but growing, number of studies of sex differences in personality that have utilized measurement invariance and latent mean difference tests. Of the studies previously discussed, only the study of Marsh et al. (2010) is based on latent means. Booth and Irwing (2011) studied latent mean differences with measurement invariance in the 16PF. Others, for example, De Bolle et al. (2015), include some tests of measurement invariance prior to conducted mean difference tests, but

these may not be complete. For example, in the case of De Bolle et al., these models use facet scores as indicators of models for the domains of the FFM, and so item-level invariance is not considered.

Impact of a Lack of Invariance

The question of how much impact a violation of the assumption of measurement invariance would have on a given estimate of mean difference based on observed scores is somewhat complex. It concerns the interaction of the size and direction of any true differences versus the size (both effect size and the number of items affected) and direction of any differences due to a measurement bias. Dependent on what combination of these factors is at play, estimates of difference may be spurious, inflated, or attenuated. Clearly, this is a complex picture but one that requires attention from researchers if they are serious about identifying and understanding if sex differences in personality exist and the true magnitude of these differences. In studies of measurement invariance, as with all statistical analyses, one must also be aware of general issues concerning the representativeness of samples and statistical power. Invariance analyses are often complex, and power for a fixed sample size will vary dependent on the level of invariance being tested.

Why Is Invariance Not Tested?

This is a difficult question to answer, but it is possible to speculate. First, it is a topic which has only risen to prominence outside of the methodological literature comparatively recently. Second, and relatedly, applied researchers who have not specifically studied psychometrics or more advanced latent variable methodologies may be unaware of the strictness of the assumptions related to the use of sum or observed scores. Third, measurement invariance is not a simple analysis and requires a good degree of statistical understanding and large sample sizes. Fourth, many researchers reasonably assume that such issues of measurement have been researched as part of the validation of extant tools. Two points are worth noting here: (a) measurement invariance rarely features in test manuals of extant

inventories, and (b) even if invariance is established in the standardization samples for a given inventory, it does not mean it will hold in any given sample for which a mean difference test is being conducted. Fifth, these analyses require an adequately fitting measurement model across groups to be established, and personality data is renowned for showing poor model fit in such models (see Hopwood and Donnellan 2010 for discussion). This latter point has been somewhat mitigated by the recent introduction of exploratory structural equation modeling, which has been applied in the study of sex differences in personality including tests of measurement invariance (see Marsh et al. 2010).

Univariate Versus Multivariate Measures of Effect Size

Recently debate has begun as to whether the magnitude of sex differences in personality should be estimated based on univariate or multivariate measures of effect size. Cohen's d is a univariate measure, and as is evident from the studies discussed in this entry, a common practice is to consider collections of univariate effects when discussing multidimensional constructs such as personality. However, some (e.g., see Del Giudice 2017) have suggested that multivariate estimates such as Mahalanobis D may be more informative. The basic logic of this approach is that while differences in individual traits may be small, an accumulation of differences across multiple traits may result in outward manifestations of personality that are quite different. Further, univariate measures by definition fail to take into account the correlational structure between sets of measures being compared.

In the study of sex differences in omnibus personality inventories, Del Giudice et al. (2012) reported multivariate estimates in an analysis of the 16PF5 using the US standardization sample, also incorporating an evaluation of measurement invariant latent versus observed score differences. The results demonstrated (a) that latent mean estimates from measurement invariance models were larger than the observed score mean differences of the same data (consider also Marsh et al. (2010) in

Table 2 versus the observed score studies) and (b) that, when combined using Mahalanobis D , the overall difference between males and females was large.

Hyde (2014) has argued against the use of D , stating that the use of such measures maximizes difference and is uninterpretable. While the former is a generally correct statement concerning D , the latter is less accurate (see Del Giudice 2017). Further, as Del Giudice et al. (2012) have shown, and as our discussion of facet and domain differences has emphasized, current practice may be underestimating differences. Key to this debate seems to be the question of which level of aggregation is most appropriate for estimating the magnitude of sex differences. Is it facets, domains, or perhaps “all” of personality?

Sex Differences in Psychopathology

Finally, we conclude by briefly discussing sex differences in psychopathological traits. Psychopathology is viewed by many as underpinned by or representing the extreme end of “normal” personality traits. As such, it is not surprising that well-replicated sex differences are also observed in the majority of psychopathological disorders (e.g., see Martel 2013). Internalizing disorders such as anxiety and depression tend to be more prevalent in females as are other disorders with a strong “negative emotionality” component such as eating disorders and borderline personality disorder. Externalizing and neurodevelopmental disorders such as autism, attention deficit hyperactivity disorder, conduct disorder, and schizophrenia spectrum disorders tend to be more prevalent in males. Thought of another way, females are relatively more affected by disorders with an onset in adolescence, whereas males are relatively more affected by disorders with an early onset. This seems to be true “within” diagnostic categories as well. For example, females who show conduct problems are more likely to show an adolescent onset than early onset. Sex differences in prevalence vary considerably across different diagnostic categories with, for example, no apparent sex difference in adolescent oppositional

defiant disorder but an eightfold increased risk of eating disorders in females relative to males.

Within diagnostic categories, there may also be sex differences in manifestation. In autism, for example, there is some evidence that females may be better able to conceal their difficulties. Similarly, as regards conduct problems, females show a preference for relational aggression over physical aggression, evidencing relational aggression levels on a par with males who otherwise show higher aggression levels than females. Some have argued that differences in prevalence and manifestation mean that the less-affected sex tends to be underdiagnosed. This is because symptoms of “stereotypically male” disorders may be harder to recognize in females and vice versa. As such, there have been some calls to create “gender-specific” diagnostic criteria for some disorders in which the symptom lists referred to during the diagnostic process are tailored to gender.

Theoretical Explanations from Psychopathology

Various explanations for sex differences in psychopathology have been proposed, some of which refer to specific disorders and others which attempt to explain sex differences in general. These refer to both biological (e.g., genetic, epigenetic, and neurocognitive) and environmental (e.g., in utero exposures, socialization) factors and both ultimate and proximate mechanisms. To explain sex differences in neurodevelopmental disorders, for example, it has been proposed that male-female differences in prenatal testosterone exposure make males more vulnerable to the effect of early adverse environmental exposures. In addition, stronger socialization against “acting-out” behaviors in females has been proposed to contribute to sex differences in conduct problems.

A general model of sex differences in psychopathology is the multifactorial threshold model in which one sex is assumed to require a greater loading of risk factors to tip them over into psychopathology. For example, for a male and female who have identical genetic and environmental risk factors, the latter may be more protected against developing autism because of gender-specific

buffering factors. This can be contrasted with the idea that one sex tends to manifest a particular psychopathology at a higher rate due to showing higher levels of risk factors. For example, it has been proposed that males show higher levels of early-onset conduct problems because they are more likely to show early predisposing neurocognitive deficits. It can also be contrasted with the idea that sex differences exist because the same underlying liability is expressed differently in males and females. For example, it has been proposed that substance use and depression are the more male versus female manifestations of the same underlying vulnerability.

Another general perspective on sex differences in psychopathology proposes that they are due to sexual selection for traits that increase reproductive success. In males, traits related to social dominance and resource acquisition are selected for, especially “approach” traits such as disinhibition and sensation-seeking. At extreme levels or when poorly calibrated to the environment, these traits may increase the risk of externalizing disorders. In females, traits related to social competence such as empathy and negative emotionality may be selected for which, when extreme or poorly calibrated, may confer risk of internalizing disorders. Although much work remains to be done in illuminating the causes of sex differences in psychopathology, as with sex differences in personality, their study is helping to reveal the underlying causes of psychopathology in general.

Conclusions: Should We Study Sex Differences in Personality?

The aim of this entry was to give a broad overview of the empirical evidence for sex differences in personality. In doing, our focus was on the question “Do differences exist?” giving specific attention to the methodological issues in the study of sex differences. We have briefly discussed some of the theoretical arguments for sex differences and some of the related work on differences in trait variation. We have not dealt in any depth with the highly important question set out at the beginning of this entry of “If sex differences do exist, what do they mean for life outcomes?”

We close by considering the broader question of, given the information present, should we continue to study sex differences in personality? The short answer, yes. Despite large volumes of work, there remain some gaps with respect to in-depth measurement invariance analyses of mean differences at the facet level – thus the basic question of the magnitude of differences is not entirely resolved. Further, whether one believes sex differences exist or not, whether they are large or small, biologically based or the result of societal stereotype, it is not possible to understand the implications of such differences for individuals and society without continued rigorous scientific investigation.

Cross-References

- ▶ [Five-Factor Model](#)
- ▶ [HEXACO Model](#)
- ▶ [Sixteen Personality Factor Questionnaire \(16PF\)](#)

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Sex Differences in Self-Esteem

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Definition

Global self-esteem is defined as an individual's subjective evaluation of his or her worth as a person (Leary and Baumeister 2000). This entry focuses on differences between men and women in self-esteem.

Introduction

There is widespread interest among academics as well as the general public in various aspects of self-esteem. One particularly interesting question is whether there is a difference in self-esteem between men and women.

Sex Differences in Self-Esteem

Many studies have examined gender and age differences in self-esteem. Although there were conflicting results in earlier studies in that some studies found higher self-esteem for men and other studies found no significant difference at all, several meta-analyses (e.g., Kling et al. 1999; Twenge and Campbell 2001) and recent longitudinal studies (e.g., Orth et al. 2010) suggest that men tend to have slightly higher self-esteem than women. However, the difference is rather small and not consistent across the life-span (Donnellan et al. 2011). A comprehensive meta-analysis by Kling et al. (1999) with 184 studies and 216 effect sizes suggests that the first gender difference in self-esteem between boys and girls emerges in adolescence and is greatest in late adolescence ($d = 0.33$). However, the overall effect size across age groups is .21, which corresponds to a small effect size. Furthermore, a recent cross-cultural study found that the gender difference in global self-esteem was consistent across 48 countries, but the effect size of the difference changed considerably between cultures (Bleidorn et al. 2015). Although for level of self-esteem there seems to be a small gender difference favoring men, the developmental trajectory of self-esteem is similar for both men and women: increasing self-esteem from adolescence to young adulthood, a peak in midlife, and then declining in old age (Orth et al. 2012; Wagner et al. 2013).

Although the reason for this difference has been debated extensively, there seems to be no single factor that can explain all the mechanisms that lead to this small difference in global self-esteem. For instance, one theory focuses on the fostering of different qualities in boys and girls during schooling that may lead to differences in academic achievements, whereas another theory focuses on the changes in physical appearance in boys and girls during adolescence that may have differential effects on their sense of self-worth (for a review see Zeigler-Hill and Myers 2012). Overall, it seems that the difference emerges due to a complex interplay of various factors that affect boys and girls differently.

As self-esteem is a multifaceted construct, it is also possible to look at the sense of self-worth in

specific areas. For instance, one can evaluate oneself as more competent and worthy in one area like sport but less competent in another area like academic achievement. When self-esteem is conceptualized at the domain-specific level, there is not a consistent pattern of higher self-esteem in all domains for males over females. On the contrary, males report higher levels of self-worth on some domains, but lower levels of self-worth on others, and there are also several domains in which males and females report roughly equivalent levels of self-esteem. In a meta-analysis by Gentile et al. (2009) with 115 studies and 428 effect sizes, it was found that men reported higher self-esteem than women for athletics ($d = 0.41$), physical appearance ($d = 0.35$), self-satisfaction ($d = 0.33$), and personal self ($d = 0.28$). Women reported higher self-esteem than men for moral self-esteem ($d = 0.38$) and behavioral conduct ($d = 0.17$). There were no gender differences in academic, social acceptance, family, and affect self-esteem. Therefore, it seems that there are more fine-grained mechanisms that function differently in men and women in both global and domain-specific self-esteem.

Conclusion

To sum up, self-esteem is a complex construct, and gender differences exist only for some facets of it (with small to medium effect sizes). For global self-esteem, men tend to have slightly higher levels of self-esteem than women. However, in terms of domain-specific self-esteem, men tend to have higher scores in some domains (e.g., athletic self-esteem), whereas women tend to have higher scores in others (e.g., behavioral conduct self-esteem), and in some domains, there is no significant difference at all (e.g., social acceptance self-esteem). Overall, it is important to acknowledge these gender differences but also to bear in mind that their magnitude is quite small.

Cross-References

► [Self-Esteem](#)

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Sex Role Measure

- ▶ [Bem Sex-Role Inventory](#)

Sex Role Self-Ratings

- ▶ [Bem Sex-Role Inventory](#)

Sexual Abuse

- ▶ [Child Abuse and Neglect](#)

Sexual Antagonism

- ▶ [Sexually Antagonistic Selection](#)

Sexual Desire

- ▶ [Libido](#)

Sexual Drive

- ▶ [Libido](#)

Sexual Identity

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Synonyms

[Sexual label](#); [Sexual orientation category](#); [Sexual orientation identity](#); [Sexual self-concept](#); [Sexual self-image](#)

Definition

A *sexual identity* is the social label one adopts to describe their sexual and romantic attractions. A sexual identity may refer to both how one thinks about oneself and how one describes themselves to other people (Bailey et al. 2016). Sexual identity is distinguished

from *gender identity*, which is a social label one adopts in regard to their own gender (e.g., man, woman).

Introduction

As a social label, a sexual identity indicates membership in a social group that shares common traits. Sexual identity is considered one indicator of sexual orientation, in addition to *sexual attraction* (i.e., what partners an individual finds arousing or fantasizes about) and *sexual behavior* (i.e., what partners an individual engages in sexual activities with). Although there is considerable overlap between sexual identity, sexual attraction, and sexual behavior, they do not necessarily coincide (Bailey et al. 2016; Savin-Williams 2006). For example, some men who have sex with men identify as heterosexual, and homosexual behavior may occur in sex-segregated environments (e.g., prisons) despite both sexual partners possessing heterosexual attractions and heterosexual identities (Bailey et al. 2016).

Sexual identities can potentially be complex, for several reasons. Sexual identities are both an internal psychological trait (i.e., how one thinks about oneself) and an external trait (i.e., how one describes oneself to others); these may differ, particularly if one is not open to others about one's sexual identity. In addition, sexual identity is inherently subjective because identities are determined by an individual, are socially constructed, and are dependent on historical and cultural context (Alderson 2003; Savin-Williams 2006). Thus, two people with the same sexual identity may have different interpretations of what the label means, and two individuals with similar sexual attractions and behaviors may have distinct sexual identities. Moreover, although sexual identities are often relatively stable, sexual identities may shift throughout the lifespan (Diamond 2014). In addition, there are several components of potential sexual and romantic attractions (e.g., sex, gender, number of partners preferred), and sexual identities reflect the diversity of sexual attractions.

Diversity of Sexual Identities

There are a wide variety of sexual identities. The four sexual identities mostly commonly described in the psychological literature are *heterosexual*, *gay* or *lesbian*, *bisexual*, and *asexual*. The majority of people identify as *heterosexual* or *straight*, that is, exclusively attracted to the other sex (Bailey et al. 2016). Those who do not identify as heterosexual (e.g., gays, lesbians, bisexuals, and asexuals) make up a relatively smaller proportion of the population and are therefore considered *sexual minorities*. The term *heterosexual* is used when referring to sexual identity, attraction, or behavior. In contrast, the term *homosexuality* refers to same-sex sexual attraction and behavior, whereas the terms *gay men* and *lesbian women* refer to an exclusively same-sex attracted sexual identity. That is, the term "homosexual" is not typically used to describe a sexual identity (American Psychological Association 2010). A bisexual identity indicates sexual attractions to both men and women. A bisexual person may have the same level of attractions to both men and women equally or may be attracted more strongly to one sex than the other. An asexual identity indicates a lack of sexual attraction. Although asexuals may experience sexual arousal and typically do not have physiological difficulties in sexual functioning, asexuals do not experience attractions aimed at any potential sexual target (Bogaert 2012). Within the identity of asexual, there is also an *asexual spectrum* that indicates levels of sexual and romantic attraction to different potential partners, as well as attitudes toward sexual and romantic behavior (see Bogaert 2012; Robbins et al. 2016).

There also exists a range of sexual minority identities that fit under the umbrella term of *non-binary sexual identities*, which includes any sexual minority identities that do not fit under any of the four more commonly described sexual identities. Non-binary sexual identities are generally considered distinct sexual identities that communicate social or cultural meaning, rather than as subsets or combinations of other sexual identities. A *pansexual* (i.e., "all" or "any" sexual) sexual identity indicates sexual attractions that disregard

sex and gender and explicitly includes potential sexual and romantic attraction to those with a minority gender identity (e.g., transgender and gender queer individuals). Individuals may also identify as *sexually fluid*, which indicates that one's sexual identity shifts over time rather than being stable over a long period of time. In addition, whereas a bisexual sexual identity typically indicates that one commonly experiences sexual attraction to both men and women, those who are predominantly attracted to one sex but are occasionally attracted to the other sex may identify as *mostly heterosexual* or *mostly gay/lesbian* (Vrangalova and Savin-Williams 2012). Finally, some individuals with non-binary same-sex attractions prefer not to identify with any particular sexual label or may identify with the umbrella term *queer*, which refers to any sexual and/or gender minority identity.

There is also a range of sexual identities that encompass aspects of relationships beyond the sex or gender one is attracted to. Although there is overlap between sexual and romantic attraction, sexual attraction is distinguishable from romantic attraction (i.e., the sex or gender one finds romantically attractive; Diamond 2014). Likewise, one may have different identities in terms of romantic and sexual attractions (e.g., an asexual person with same-sex romantic attractions may identify as a homoromantic asexual). Many individuals prefer to have one committed sexual and romantic partner to the exclusion of other sexual and romantic partners and thus would be labeled as having a *monogamous* sexual identity. In contrast, some individuals are open to more than one committed romantic and/or sexual relationship simultaneously and may identify as *polyamorous* (Robinson 2013).

There are important gender differences in terms of what sexual identities are adopted. Most research suggests that most men who identify as a sexual minority identify as gay (Savin-Williams and Diamond 2000). In contrast, most women who identify as a sexual minority do not identify as lesbian. A notably higher percentage of women either identify as bisexual or identify with a non-binary sexual identity (Rust 1993; see Diamond 2014, for a review). In addition, a higher

percentage of women (vs. men) identify as asexual (Bogaert 2012).

There is also considerable cross-cultural variability in sexual identities. The existence of same-sex attractions that most Western cultures would describe as "homosexual" (i.e., between two people with the same genetic sex) is nearly universal across cultures (Bailey et al. 2016). However, sexual identities such as "gay" or "lesbian" that are used to indicate same-sex attraction in most Western cultures are either very uncommon or nonexistent in several non-Western cultures (Bailey et al. 2016). Rather, some cultures have widely recognized gender identities other than male and female, commonly referred to as a *third gender*. A notable example is the *fa'afafine* of Samoa, who are genetically male, adopt predominantly feminine gender roles, and have romantic relationships with men. In Samoa, both *fa'afafine* and men who have sex with (and attractions to) *fa'afafine* would be culturally labeled as heterosexual, not "gay" (Bartlett and Vasey 2006). Gay male identities have not been reported in this culture (Bartlett and Vasey 2006). Most cultures have either the presence of gay and lesbian identities or the presence of more than two gender identities, although gay and lesbian identities may coexist with third genders in some cultures. Overall, there are a variety of culturally constructed sets of sexual identities and gender identities within each culture which may not generalize to other cultures (see Bailey et al. 2016, for a review).

Identity Formation

A considerable amount of research has examined the sexual identity formation process among sexual minorities, commonly referred to as "coming out." Foundational research on sexual identity formation (e.g., Cass 1984) proposed developmental stage models of sexual identity formation. A sexual identity was thought to begin development after initial awareness of one's sexual attractions during adolescence, followed by exploration of one's sexual attractions and identity spanning from adolescence to early adulthood, then the

adoption of a stable sexual identity in early adulthood, and finally disclosing this identity to others (i.e., “coming out”). Several contemporary critiques of these stage models (e.g., Rust 1993; Savin-Williams and Diamond 2000) have demonstrated that there is considerable and systematic variability in the sexual identity formation process that stage models may not account for.

For instance, the LGBTI (i.e., Lesbian, Gay, Bisexual, Transgender, and Intersex) model of identity formation (Alderson 2003, 2013) proposes that sexual identity formation varies as a function of psychological, social, and cultural factors. In contrast to stage models, the LGBTI model does not assume a typical or normative trajectory. Moreover, whereas stage models of coming out may explain the coming out process of many gay men (see Savin-Williams 1996), the sexual identity process of bisexuals (Rust 1993) and lesbians (Diamond 2014) is highly variable and may be more “fluid” than the sexual identity process of gay men. That is, these sexual identities are more prone to shifting over time rather than being stable throughout the lifespan, and there is not a typical order in which the “stages” of sexual identity occur. In addition, the process of sexual identity formation may be more variable now than in the past because of greater social acceptance of sexual minority status (Floyd and Bakeman 2006). The sexual identity process of asexuals is relatively understudied, though preliminary research suggests that asexuals experience a sexual identity process that is in many ways comparable to other sexual minorities (Robbins et al. 2016).

Alderson (2003) argues that there is considerable variability in the sexual identity process, characterized by *catalysts* that encourage the adoption of sexual minority identities (e.g., desire for romantic partners) and *hindrances* that discourage the adoption of sexual minority identities (e.g., fear of social rejection). In order for one to adopt a sexual minority identity, they must engage in a form of “cost-benefit analysis,” particularly when choosing to publicly disclose one’s sexual identity. Ultimately, whether and when one adopts a particular sexual minority identity is determined by whether the catalysts encouraging adoption

of a particular identity outweigh the hindrances against adopting that identity. There is also systematic variability in the sexual identity process. For instance, women tend to come out later than men on average, which can largely be attributed to greater variability in the coming out process of women (Diamond 2014). For instance, a subset of women only adopts a sexual minority identity after experiencing their first same-sex attractions in middle or later adulthood, whereas this pattern is considered relatively uncommon for same-sex attracted men. Sexual minorities also appear to be coming out at an earlier age than in the past (Floyd and Bakeman 2006; Grov et al. 2006), with sexual identities sometimes now adopted in late childhood or early adolescence. The most likely explanation for this shift is that hindrances to coming out have decreased along with greater social tolerance of homosexuality. Additional research is consistent with this proposition, in that publicly identifying as a sexual minority is less common in several contexts which are less safe or welcoming to sexual minorities. For instance, sexual minorities are less likely to come out to family members who hold more traditional conservative values (Newman and Muzzonigro 1993) or members of their religious community (Lassiter 2016; Wolff et al. 2016), and members of ethnic minorities may have greater difficulty coming out due in part to more traditional values about gender and religion in ethnic minority communities (Dubé and Savin-Williams 1999).

Experiencing sexual attractions and desires but not publicly identifying as a sexual minority (colloquially referred to as being “in the closet”) can lead to intrapsychic conflict (Alderson 2003). There are several negative physical and mental health outcomes associated with not adopting a sexual minority identity, including depression, isolation, and low self-esteem (Halpin and Allen 2004). The highest levels of stress and negative mental health outcomes are commonly reported during the initial formation of a sexual minority identity (Halpin and Allen 2004), particularly when one’s environment is intolerant toward sexual minorities (Alderson 2003). However, same-sex individuals with a positive sexual identity tend to have many positive psychological outcomes

as compared to same-sex attracted individuals who have not adopted a sexual minority identity, including higher happiness, higher self-esteem, lower emotional distress, and lower loneliness (e.g., Floyd and Stein 2002; Halpin and Allen 2004). Sexual minority members with a coherent sexual identity tend to have the most positive psychological outcomes (Alderson 2013; Halpin and Allen 2004). These findings are consistent with Social Identity Theory, in that social identities are thought to provide self-esteem and a sense of belonging (Alderson 2003).

Prejudice, Discrimination, and Minority Stress

Although there are many potential benefits to adopting a sexual identity, there are also potential risks. Those who identify with a non-heterosexual sexual orientation face prejudice and discrimination based on their status as a stigmatized sexual minority, referred to as *sexual prejudice* (Herek and McLemore 2013). Sexual prejudice can lead to many forms of discrimination, including social rejection, housing and workplace discrimination, bullying, and assault (Bailey et al. 2016; Herek and McLemore 2013). The “differences as deficits” model of sexual prejudice proposes that nonheterosexual sexual orientations are viewed as inferior to heterosexuality, coupled with traditional views that heterosexuality is normal and preferable (Herek 2010). Given that many religions consider homosexuality a sin, greater religiosity is typically associated with greater sexual prejudice (Herek and McLemore 2013). Endorsement of traditional value systems (i.e., politically right-wing ideologies) is also associated with greater sexual prejudice (Herek and McLemore 2013; Hoffarth and Hodson 2014). In addition, sexual minorities are often viewed as violating gender roles, and thus endorsement of traditional gender roles is strongly associated with sexual prejudice (Herek and McLemore 2013). Despite not identifying as having same-sex attractions, asexuals can also face prejudice and discrimination (MacInnis and Hodson 2012), which is linked

to endorsement of traditional gender roles and right-wing ideologies (Hoffarth et al. 2016).

In most Western societies, norms have shifted dramatically, such that blatant forms of antigay prejudice and discrimination which were commonplace a few decades ago are now generally socially unacceptable (Herek and McLemore 2013). Despite this shift, discrimination against sexual minorities still occurs, although expressions of sexual prejudice are now less blatant (Herek and McLemore 2013; Hoffarth and Hodson 2014). In contrast to other forms of prejudice (e.g., racism), sexual prejudice is still openly endorsed in some domains of Western societies (Herek and McLemore 2013). In addition, blatant prejudice and even extreme discrimination against sexual minorities (including imprisonment and the death penalty) still exist in many countries (Bailey et al. 2016; Herek and McLemore 2013).

Prejudice and discrimination negatively impact sexual minorities, which is referred to as *minority stress* (Alderson 2013). As a result, sexual minorities are more likely than heterosexuals to experience a range of negative outcomes, particularly if experiencing discrimination or social rejection (Legate et al. 2013). Moreover, simultaneously adopting a sexual minority identity and yet being a member of a group that condemns homosexuality may lead to *identity conflict*, with one’s sexual identity perceived as in conflict with other social identities. For instance, sexual minorities may view their sexual identity as incompatible with their race/ethnicity (Dubé and Savin-Williams 1999; Parks et al. 2004) or religious orientation (Lassiter 2016). In addition, ethnic minorities may experience prejudice and discrimination from both their racial group (based on their sexual identity) and from other sexual minorities (based on their racial/ethnic identity; Parks et al. 2004). Sexual minorities may also experience *self-stigma* (also referred to as *internalized homophobia* in the context of same-sex attracted identities). Self-stigma involves negative attitudes toward one’s own sexual minority identity or sexual attractions, which stems from internalizing society’s negative views toward homosexuality (Herek and McLemore 2013).

Future Research

Many topics involving sexual identity are currently understudied. First, most research has focused on the sexual identities of gay men and, to some extent, lesbian women. More research is needed on other sexual identities, particularly non-binary sexual identities and asexual identities. In addition, although models of coming out assume that internal psychological processes play an important role in sexual minority identity formation, the role of personality and individual differences in the formation of sexual minority identities is presently understudied. A limitation of much of the research on sexual identity is that data are cross-sectional and based on retrospective reports. Such retrospective reports may be biased by participants' motivations to portray a cohesive "master narrative" of their life (Savin-Williams 1996). Although some research has utilized longitudinal designs, more longitudinal research is needed to capture developmental processes. In addition, most sexual identity research is based in Western cultures. More research on sexual identity is needed in non-Western cultures. Similarly, most research on sexual prejudice is based in Western cultures, and more research is needed in non-Western cultures, particularly where there are high levels of blatant sexual prejudice.

Conclusion

Sexual identity, like most social identities, is a complex phenomenon. One's sexual identity is not only determined by one's sexual attractions and behaviors but is subjectively determined and influenced by a range of psychological and socio-cultural factors. In particular, sexual minorities develop sexual identities across social and political contexts that vary dramatically in acceptance of sexual minorities. Thus, an understanding of sexual identity cannot necessarily be generalized cross-culturally. In addition, the labels used to describe sexual identities are historically and culturally bound. Many Western cultures have experienced a dramatic shift in views of homosexuality in recent history, and the range of sexual identities

have become increasingly nuanced and complex. We can expect that sexual identities will continue to shift as a function of cultural processes.

Cross-References

- ▶ [Identity](#)
- ▶ [Openness](#)
- ▶ [Personality and Sexual Addiction](#)
- ▶ [Prejudice](#)
- ▶ [Religion](#)
- ▶ [Sexual Orientation](#)
- ▶ [Social Identity Theory \(SIT\)](#)

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Sexual Infidelity

▶ Sexual Promiscuity

Sexual Instinct

▶ Libido

Sexual Label

▶ Sexual Identity

Sexual Orientation

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Definition

Sexual orientation refers to relatively permanent pattern of emotional, romantic, and/or sexual attractions to men, women, or both sexes. Sexual orientation also refers to a person’s sense of identity based on those attractions, related behaviors, and membership in a community of others who share those attractions. Sexual orientation is usually discussed in terms of three categories: heterosexual, referring to those individuals having emotional, romantic, or sexual attractions to

members of the other sex; homosexual, gay/lesbian, referring to those individuals having emotional, romantic, or sexual attractions to members of one's own sex; and bisexual, for those individuals having emotional, romantic, or sexual attractions to both men and women (APA 2008).

Introduction

Sexual orientation is defined in terms of relationships with others. Sexual orientation is distinct from other components of sex and gender, including biological sex which defines the anatomical, physiological, and genetic characteristics associated with being male or female, and gender identity that defines the psychological sense of being male or female and social gender role, as the cultural norms that define feminine and masculine behavior. People express their sexual orientation through behaviors with others, including emotion as desiring and loving, fantasies as dreaming about, and actions as holding hands or kissing. Sexual orientation is the intimate personal relationships that produces and generates love, attachment, and intimacy. In addition to sexual behaviors, hence, these bonds include nonsexual physical affection between partners, shared goals and values, mutual support, and ongoing commitment. Sexual orientation is not merely a personal characteristic within an individual. One's sexual orientation also defines the group of people in which one is likely to find the satisfying and fulfilling romantic relationships that are an essential component of being an individual (APA 2008). Research over several decades has demonstrated that sexual orientation ranges with different frequencies, along a continuum, from exclusive attraction to the other sex to exclusive attraction to the same sex (APA 2008).

Development of Sexual Orientation

Prospective studies suggest that childhood cross-sex-typed behavior is strongly predictive of adult homosexual orientation for men and for women.

Though methodologically somehow problematic, retrospective studies are useful in determining how many homosexual individuals displayed cross-sex behavior in childhood (Bailey and Zucker 1995; Burri et al. 2015). On this line, a sociological perspective proposes that biological variables, such as genes, prenatal hormones, and brain neuroanatomy, do not code for sexual orientation per se, but for childhood temperaments that influence a child's preferences for sex-typical or sex-atypical activities and peers. These preferences might lead children to feel different from opposite or same-sex peers—to perceive them as dissimilar, unfamiliar, and exotic. This, in turn, according to certain researchers, could produce heightened nonspecific autonomic arousal that subsequently gets eroticized to that same class of dissimilar peers, in other words: Exotic becomes erotic (Bem 1996).

According to another perspective, sexual orientation, at least in males, could be influenced by prenatal influences on the mother over the fetus, according to the number of previous male pregnancies she has experienced. This hypothesis called fraternal birth order influences sexual orientation and could be interpreted as a sort of a progressive immune reaction of the mother to subsequent male pregnancies. According to this hypothesis, the probability to develop a homosexual orientation grows around 30% for each older brother the subject has (Blanchard 2001).

Explicit and Implicit Methods to Measure Sexual Orientation

The most common method to measure in adults sexual orientation is the Kinsey scale, which is composed by a series of question measuring self-evaluation on a numerical scale ranging from 0 to 6 on erotic attraction, fantasies, emotions about other or same sex and then averaged into a final score ranging from 0 complete heterosexuality to 6 complete homosexuality and intermediate values measure level of bisexuality (Kinsey et al. 1948). However, self-reported questionnaires on explicit measures of sexual orientation yield significant underestimations of nonheterosexuality.

Recently, nonheterosexual preferences can be explored in the general population through a sexual preference implicit association test (sp-IAT) or other implicit or veiled methods (Camperio Ciani and Battaglia 2014). The Kinsey questionnaire strongly dichotomized the responses as either attracted to females or attracted to men, whereas the implicit methods as sp-IAT showed a wider distribution of responses from gynephilia to androphilia at least in males sexual orientation. These implicit methods could be a novel instrument useful to better ascertain the true sexual orientation distribution in natural human populations.

Frequency of Sexual Orientation

The prevalence of gay, lesbian, and bisexual orientation may largely vary over time and geographical region. Homosexual and bisexual orientation is not limited to Western developed countries, but is present in almost all human populations, always with relatively low frequency, or prevalence. However, not all researchers agree with a universal distribution of sexual orientation variants across cultures (Barthes et al. 2013). Population-based surveys have suggested prevalence of 2–9% for lesbians, compared with 0.5–15% for gays, with a more general agreement on 2–7% in most Western countries for both genders. The distribution of bisexuality is somehow less clear, in males is lower than male homosexual orientation, while in females it is higher than the frequency of lesbians (Diamond 2008). It should be noted that sampling problems affect surveys on sexual preference, as well as the location, whether urban or rural, and the method used, etc. The above figures should thus be considered as fairly uncertain estimates producing no final consensus. Further, prejudice, persecution, homophobia, and religious orthodoxy might induce individuals not to reveal, even in anonymous questionnaires, their own sexual orientation, creating an “obscure number” of individuals who will never explicitly disclose such information (Camperio Ciani and Battaglia 2014; Savin-Williams 2006).

Flexibility of Sexual Orientation

A noticeable sex difference in sexual orientation frequency is that the distribution of homosexuality and bisexuality is very different among genders. While it is polarized with a U-shaped distribution for males, with a relative higher frequency of complete or almost complete heterosexuals or homosexuals and relatively few bisexuals. In contrast, females show a different distribution progressively declining in frequency from complete heterosexuality toward complete homosexuality (Camperio Ciani et al. 2015). Further differences between female and male sexual orientation distribution point to a relatively higher shared (social, educational) environmental influence in female sexual orientation rather than males. Sexual orientation in females seems more flexible in response to shared-environmental factors compared with males. Females might express sexual preference for females also because of feminist, political, egalitarian reasons, in addition to being driven to homosexuality by erotic or emotional attraction. More females than males appear to have switched from heterosexual to homosexual preference, even after a satisfactory period of heterosexuality and vice versa. Females may maintain their sexual fluidity well into adulthood on the contrary the sexuality of males becomes relatively fixed by young adulthood (Diamond 2008).

Causes for Different Sexual Orientation

There is no consensus among scientists about the exact reasons why an individual develops a heterosexual, bisexual, gay, or lesbian orientation. Although extensive research has examined the possible genetic, hormonal, developmental, social, and cultural influences on sexual orientation. No conclusive findings have emerged that permit scientists to affirm that sexual orientation is determined by any particular factor or factors. In generating sexual orientation, as many other aspect of social behavior, nature and nurture both play complex roles. Further, most people experience little or no sense of

choice about their sexual orientation (APA 2008). It should be noted that among the biological influences on sexual orientation a partial genetic influence is quite clear. Multiple independent causes, genetic and environmental, concur to establish same-sex preference in humans, with noticeable differences in the expression of this phenotype in males and females (Jannini et al. 2010).

Genetic Influence on Sexual Orientation

The observed population distribution of sexual orientation, such as frequency (prevalence), distributions, family clustering, pedigree asymmetries, and sibling concordances, point to genetic heritability of both male and female sexual orientation. These data point to a low but significant genetic influence on sexual orientation, with a low-penetrance and partial-expressivity, for homosexual orientation in both genders. A recent review reporting over two decades of evidence from family studies, comparing pairs of adoptive brothers, biological brothers, dizygotic and monozygotic twins, showing that the probability of homosexual sibling concordance in all such classes progressively increase if the proband has an homosexual orientation, which strongly suggests the presence of a genetic influence (Camperio Ciani et al. 2015). Further, the much lower rate of sexual orientation concordance between adopted sisters as compared with biological sisters is in line with the genetic heritability paradigm. Overall, twin studies, despite their large heterogeneity, do suggest human sexual orientation to be influenced by a significant genetic component, with a likely larger effect in males than females. After earlier work on the population genetics of sexual orientation, the more recent debate has considered diverse selection mechanisms, including direct selection modes in which the fitness is solely influenced by an individual's genotype, based on overdominance, or sexually antagonistic selection, and other selection modes for male homosexuality including maternal effects and genomic imprinting, possibly involving epigenetic activity (Gavrilets and Rice 2006; Camperio Ciani 2014).

The possibility of a genetic influence on sexual orientation has posed a long-lasting Darwinian paradox. How genetic factors influencing relatively exclusive homosexuality can evolve and be maintained in the population if they are carried and expressed by individuals that reproduce significantly less than heterosexuals. For male homosexuality, about which there exist adequate population data, the systematic analysis of the evolutionary propagation mechanisms eliminates the possible Darwinian paradox associated with a genetic influence on homosexual orientation, resolving it within the framework of sexual conflict, suggesting that the same genetic factors influencing homosexuality in males produce in relative females an increased fecundity thus balancing fitness (Camperio Ciani et al. 2004).

Sexual antagonism for a multi-locus factor with at least an X-linked locus is the selection model providing closest adherence to all the empirically known patterns for both homosexual orientation of males (distribution, frequency, generational, persistence) and higher-than-average fecundity for females only in their maternal line. These findings point, with a particularly relevant example, to the occurrence of a first well-identified sexually antagonistic character in humans (Camperio Ciani et al. 2008). This perspective may help shift the focus away from male homosexuality preference per se. Rather than concentrating on the sole aspect of the reduced male fitness that it entails, this places male homosexual orientation within the more general sexual conflict framework of a genetic trait with gender specific benefits, which may have evolved by increasing the fecundity of females, and neither disappears nor completely invades the gene pool (Camperio Ciani et al. 2015). In females, sexual orientation is less clearly understood and further studies are necessary to understand the genetic influence on it (Rice et al. 2013). Asexuality is some time improperly defined as asexual orientation. Asexuality, as the absence of desire for sexual relationship pertains more to the intensity of sexual desire rather than a specific sexual orientation. Asexuality can be lifelong or more frequently interest only a specific life phase such as adolescence and senescence.

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Sexual Orientation Category

- ▶ [Sexual Identity](#)

Sexual Orientation Identity

- ▶ [Sexual Identity](#)

Sexual Permissiveness

- ▶ [Sociosexual Orientation](#)

Sexual Promiscuity

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Synonyms

[Casual sex](#); [Sexual infidelity](#); [Sexually unrestricted](#); [Short-term mating](#); [Sociosexuality](#)

Definition

Sexual promiscuity refers to mating with more than one partner in a relatively short-time period (e.g., within one estrus cycle). Promiscuous individuals may or may not exhibit long-term social bond(s) with one (or more) partner(s).

Introduction

Under some conditions, mating with multiple partners is adaptive. Evolutionary perspectives emphasize adaptive psychological sex

differences involved in producing promiscuous sexual behavior. In addition to such sex-differentiated and species-typical psychological adaptations underlying promiscuous sexual behavior, evolutionary perspectives point to individual and socio-ecological variation to explain individual-level and population-level differences in sexual psychology and behavior. We briefly review some theory and evidence for context-dependent adaptations designed for sexually promiscuous behavior. We refer to “sexual unrestrictedness” and sociosexuality (see “[Definition](#)” above) as proxies for sexual promiscuity.

Parental Investment, Operational Sex Ratio, and Promiscuity

Trivers’ (1972) parental investment (PI) theory predicts that the sex with higher obligatory PI (e.g., expensive eggs, internal fertilization, gestation, lactation in mammals) will be choosier about mates (i.e., sexually restricted or lower sociosexuality). The sex with lower obligatory PI has more to gain from seeking multiple mates (i.e., sexually unrestricted or higher sociosexuality) due to high reproductive potential. Major predictions of the theory are confirmed by the pattern of sex differences found in sex-role reversed species such as polyandrous wattled jacanas where males invest more than females in parenting and the females are more sexually competitive. It’s also been confirmed experimentally. In the Australian katydid *Kawanaphila*, variation in food supply over the course of a single breeding season can flexibly shift the intra-sexual competitiveness and choosiness of the sexes by changing the ratio of males who can provide a nuptial gift (given as PI to females) compared to females seeking males (i.e., *operational sex ratio*). When food is scarce, it is difficult for males to produce their large spermatophore gift. When food is experimentally made abundant, operational sex ratio can become male-biased. Males then compete over access to females and females are choosy about males (Gwynne and Simmons 1990).

Confirming related predictions in humans, in a large cross-national comparison across 48 nations, there were significant sex differences in sociosexuality across all nations, and there was a moderate negative correlation between sex ratios and average levels of sociosexuality. In other words, when there were relatively fewer men, there was higher sociosexuality or more promiscuity. When there are more men, there is lower promiscuity (Schmitt 2005). This supports the evolutionary hypothesis that sexual promiscuity is a behaviorally flexible adaptation (in both sexes) expressed under some conditions (but less often in women). Theoretically, when men are rare (and thus more reproductively valuable than when in the majority), women have fewer options and intra-sexually compete more; men can more easily fulfill their mate preferences for variety, and over evolutionary time, men who did not shift their behavior toward promiscuity under these circumstances would have been outreproduced by those that did. These sex ratio effects on promiscuity evidently result primarily from changes in men’s promiscuity (Schact and Mulder 2015).

Costs and Benefits of Personality Traits Related to Promiscuity

Nettle (2011) argues each of the Big Five personality traits is associated with both evolutionary advantages and disadvantages. Whether personality traits such as sexual unrestrictedness and extraversion are primarily beneficial or costly for a given individual could depend on variation in (1) socio-ecological conditions and/or (2) other individual characteristics, which may indirectly influence the development of a trait (e.g., due to a gene-environment correlation, extraversion and sociosexuality could be reactively heritable, condition-dependent adaptations partly calibrated by experiences associated with one’s physical attractiveness (Lukaszewski and Roney 2011; Lukaszewski and von Rueden 2015). Consider the benefits and costs of extraversion. Nettle (2005) found extraversion is associated with higher number of lifetime sexual

partners, extra-pair copulations in men, and likelihood of leaving one relationship for another one in women. Others have found that extraversion is positively associated with sociosexuality (Wright and Reise 1997). Extraversion also relates to sensation-seeking and could increase risk of disease and accidents (Nettle 2005). Openness has also been positively associated with sociosexuality (Wright and Reise 1997). But, openness is also associated with decreased disgust sensitivity (Druschel and Sherman 1999), and since one function of disgust sensitivity is to avoid infectious disease transmission, openness could also be costly under conditions where there is high risk for transmission of disease.

Parental investment theory predicts there are reproductive benefits to sexual unrestrictedness to men (under many conditions). And there's abundant evidence men have specialized psychological adaptations for seeking sexual variety (e.g., Buss 1998). Similarly, there's abundant evidence some women have a variety of adaptively designed mate preference shifts to promote short-term mating with men exhibiting traits thought to signal good genes (e.g., facial symmetry, masculinity) during peak fertility (Gildersleeve et al. 2014) and even evidence these mate preference shifts are predictable by individual difference variables related to reproductive strategies (early vs. late age of first menstrual period) (Durante et al. 2012). There are also reproductive costs to unrestricted sociosexuality in both sexes (e.g., disease risk), which may produce adaptive variation in sociosexuality. For example, Thornhill et al. (2010) predicted and confirmed that, across nations, unrestricted sociosexuality is more prevalent under socio-ecological conditions in which the threat of human disease transmission is lower (though the relation with *female* sociosexuality scores only was significant after controlling for other variables). In addition, extraversion, openness to experience, and individualistic values (e.g., increased gender equality) rather than collectivistic values were higher where infectious disease risk was lower. These findings confirmed predictions from parasite-stress theory of sociality and values.

However, Hill et al. (2015) found women high in perceived vulnerability to illness (i.e., history of vulnerability to disease) who they experimentally primed with disease threat exhibited *increased* desire for sexual partner variety (i.e., higher sociosexuality), supporting the hypothesis that, under high disease stress, such individuals should adaptively choose to increase the genetic diversity of their offspring by increasing preferences for sexual variety. These findings seemingly contradict predictions of parasite-stress theory as Thornhill et al. (2010) reported disease threat *decreases* women's sociosexuality (and associated personality traits). But, Hill et al.'s (2015) results may potentially be reconciled with parasite-stress theory because only those women high in disease vulnerability responded to disease threat primes with increased preference for sexual variety. So, the findings could possibly suggest that only women in poor personal phenotypic health condition (those highly vulnerable to early extrinsic mortality) adaptively increase desire for sexual variety in response to high disease threat, whereas healthier women may use other strategies (e.g., restricted sociosexuality, collectivistic values) to effectively avoid disease. Regardless, both evolutionary theories explain (women's) sociosexuality as context-dependent adaptations.

Promiscuity in the form of sexual infidelity by a long-term partner has other costs (e.g., paternity uncertainty, desertion costs, withdrawing of resources, and retaliation by mate) that may explain why promiscuity is often moralized. Price et al. (2014) argued that where male investment in offspring is particularly important (and when women are more economically dependent on their male partner), anti-promiscuity moral beliefs function to increase paternity certainty. When paternal investment is more important, wasting paternal resources on another man's genetic offspring is even more costly. Similarly, desertion by an investing partner is more costly as well. So, anti-promiscuity morality would emerge from evolved sexual psychology interacting with economic and social conditions (Durante et al. 2012).

Conclusion

Evolutionary perspectives on personality and promiscuity inherently emphasize how organism's genes adaptively influence personality but also that gene's *respond* to personal and socio-ecological conditions epigenetically. This entry reviewed some ideas that place adaptations for sexual promiscuity and desire for sexual variety (within each sex) in a situationalized adaptive context.

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Sexual Sadism

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Discussion

The consideration of the relationship between these concepts and the specific notion of sexual sadism has been discussed by many authors (see reviews by Marshall and Kennedy 2003; Yates et al. 2008). The general conclusion of these studies is that while sexual sadism is conceptualized as distinct from these other concepts, the evidence of its uniqueness is not convincing. Each concept has various and overlapping features. In this entry we will attempt to delineate, as far as possible, the unique features of sexual sadism.

Definition

The most recent version of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5, APA 2013) specifies the criteria required for a person (usually but not always a male) to be diagnosed as a sexual sadist as having experienced “over a period of at least 6 months, recurrent and

intense sexual arousal from the physical or psychological suffering of another person as manifested by fantasies, urges or behaviours” (Criterion A, APA, p. 695) with the added requirement that “the individual has acted on these urges with a non-consenting person, or the sexual urges or fantasies cause clinically significant distress or impairment in social, occupational, or other important areas of functioning” (Criterion B, APA, p. 695). While these criteria may guide clinicians, researchers have challenged APA’s approach by either suggesting additional or alternative criteria or by pointing to vagueness in the DSM’s criteria (see Marshall and Kennedy 2003, for a review).

Introduction

While the concept of sexual sadism has a long history dating back to the stories of the infamous Marquis de Sade, it was not recognized as a disorder until Krafft-Ebing (1886) provided a clear description of its salient features. He said it involved the experience of sexually pleasurable sensations produced by cruelty to other persons or animals and may include the desire to humiliate others. Karpman (1954) noted that sadism also included a “will to power” manifest in the sadist’s desire for absolute control over his victim. These various features said to be indicative of sexual sadism appear throughout the literature and reflect, in varying degrees, the current diagnostic criteria in both the American Psychiatric Associations (APA) *Diagnostic and Statistical Manual of Mental Disorders* and the *World Health Organizations International Classifications of Diseases*. We will outline the DSM diagnostic criteria as they appear in the latest version (DSM-5, American Psychiatric Association 2013). Although there are female sexual sadists (Pflugradt and Bradley 2011), we will restrict our focus to males since they have been the focus of almost all of the literature.

Diagnosis

Formal Criteria

Sexual sadism disorder appears in the latest version of APA’s diagnostic manual (APA 2013, DSM-5) in the section dealing with paraphilic

disorders. In the opening remarks in this section, it is noted that a paraphilia “denotes any intense and persistent sexual interest other than sexual interest in genital stimulation or preparatory fondling with phenotypically normal, physically mature, consenting human partners (DSM-5, Criteria A, p. 685). DSM-5 distinguishes a “paraphilic disorder” from a “paraphilia” where the former is said to be “currently causing distress or impairment to the individual or . . . whose satisfaction has entailed personal harm, or risk to harm to others (Criteria B, pp. 685–686). Paraphilic disorders require clinical interventions, while paraphilias may not. The proper application of the diagnosis of paraphilic disorder requires both sets of criteria to be met, whereas a paraphilia is said to occur when only Criteria A is met. Thus a person who admits to sexual interests causing pain or distress to others but who does not inflict direct suffering on others, and is not personally distressed by his desires, would not meet criteria for a diagnosis of sexual sadism. This person would be deemed to have a paraphilia involving arousal to sexually sadistic imagery.

From a treatment point of view, this distinction may be moot since it seems likely that sexually sadistic clients presenting at a clinic who meet Criteria A and B or just A (i.e., a diagnosis or not) will be offered similar if not identical treatment. However, in the case of a diagnosis of sexual sadism, the clinician might be legally required to take action to warn the authorities or particular persons who might be a target of the client. The diagnosis can be made if the client freely admits to meeting the criteria or, in the case where the client denies the interest, “despite substantial objective evidence to the contrary” (DSM-5, p. 696).

There are many concerns that can be raised regarding these criteria (both A and B), some of these issues have to do with the vagueness or arbitrariness of particular criteria. For example, why is it necessary to have the fantasies and arousal for 6 months? In some cases fantasies lasting 6 months may be transitory during periods of sexual deprivation associated with feelings of being treated badly. More particularly, what is meant by “recurrent and intense sexual arousal?” And how does the clinician determine that the

client is experiencing these feelings? This is particularly relevant where, as is often the case, the client denies any such interests. The DSM-5 approach, in these cases, is problematic.

For clients who have a history of vicious rapes of adult women, sadistic motivation is only one of several possible interpretations. For example, many rapists viciously attack women as a result of feeling anger at all women or as a result of displaced anger toward one woman and even the murder of a woman during a sexual assault may be variously motivated (e.g., to silence the witness or as revenge against women) rather than being clearly an expression of sadistic desires. Furthermore, even some of the features said to be distinctive of sadism (e.g., extreme forcefulness, the exercise of power and control, and an intent to humiliate and degrade) appear quite commonly in most rapes.

As a result of concerns about the diagnosis, Marshall and Kennedy (2003) reviewed the research describing various aspects of sexual sadists. They found that almost all studies identified somewhat unique criteria for selecting sadists and almost none adhered strictly to DSM criteria. Apparently researchers (and presumably the clinical settings in which they work) employ idiosyncratic diagnostic practices making it impossible to integrate this literature in any meaningful way. Not surprisingly when Marshall et al. (2002) followed up this review by asking international renowned experts from these various settings to diagnose as sadists (or not) a group of 12 violent sexual aggressors, the experts failed to agree ($\kappa = 0.14$) despite being provided with extensive information on each offender.

Alternative Approaches

We, Marshall et al. (in press), have summarized the various approaches to the assessment of sadists that are meant to complement or replace DSM criteria in order to arrive at a diagnosis. We will restrict ourselves to a consideration of just two such approaches.

Phallometry: This assessment procedure (sometimes called “plethysmography”) involves measuring a man’s erectile responses to various sexual stimuli. The selection of stimuli that distinctly captures the features said to be diagnostic

of sexual sadism is critical. Unfortunately, most studies have relied on stimuli that are known to identify rapists without adding any features unique to sadists. These unique features might include depictions of gratuitous violence, cruelty, humiliation, or torture of the victim. Indeed, the only researchers who have described an attempt to create sadist-specific stimuli are Jean Proulx and his colleagues at the University of Montreal and at the Philippe-Pinel Institute in Montreal (Proulx et al. 2006). They found that stimuli depicting violent rapes that included the humiliation of the victim produced greater responses in sadists than in other sexually aggressive offenders. Clearly, however, more research is required before a phallometric protocol, including standardized stimuli, can serve as a diagnostic tool supplementing an overall diagnostic procedure.

Crime scene data: According to Hollin (1997), “the essential elements of the act – the psychological or physical suffering and humiliation of the victim – will be evident from crime scene analysis and witness and victim statements” (p. 214). Research relying on crime scene data to identify sadists has examined features such as evidence of intercourse, the sexual positioning of the victim’s body, the degree of organization, indications of torture, and ritualistic elements. Unfortunately, many of these elements appear in nonsadistic sexual assaults so inferences about the underlying motivations (i.e., sadistic or not) of the offenders may still result in unreliable diagnoses. However, crime scene data are essential pieces of information for the diagnostician particularly where the offender denies sadistic interests. Fortunately some reports suggest that certain aspects of crime scene data can be reliably interpreted (Nitschke et al. 2009).

One particularly valuable study that examined crime scene data was reported by Proulx et al. (2005). They compared crime scene data derived from comparison groups of sexual sadists and nonsadistic sexual aggressors. Proulx et al. found that sadists more commonly employed expressive violence (90.7%), planned their attacks (86%), chose an unknown victim (83.8%), explicitly humiliated the victim (53.7%), mutilated the victim (30.2%), and bound or otherwise enslaved

the victim (16.3%). Of those sadists who murdered their victims, 50% strangled them and another 25% stabbed the victim. Among these murderous sadists, 31.1% had postmortem intercourse and 44.4% mutilated their victim after death.

In Marshall et al.'s (2002) report mentioned earlier, they also asked the international experts to rate the importance of 17 items said by various researchers to define sadism. Contrary to the experts' lack of agreement on a diagnosis, they displayed quite consistent ratings of the relevance of these items in arriving at a diagnosis. On the basis of this reported agreement across experts, Marshall and Hucker (2006) developed a checklist that listed each of the 17 items which future clinicians could utilize to assist them in arriving at a diagnosis. Subsequently, Nitschke et al. (2009) refined this scale by reducing it to ten items, nine of which were to be derived from crime scene data with one additional item being the offender's responses at phallogometric testing. Nitschke et al. demonstrated that their scale met a variety of psychometric properties, most importantly satisfactory test-retest reliability ($r = 0.93$) and strong inter-rater agreement ($r = 0.86$). In addition, they showed that scores on this scale significantly differentiated 50 offenders who admitted to having repetitive sadistic sexual fantasies and who committed distinctly sadistic offenses and 50 sex offenders whose offenses and self-reports revealed no indications of sadistic interests. A meta-analysis (Nitschke et al. 2012) demonstrated that the scale had both high sensitivity (the detection of sadism) and high specificity (the identification of the absence of sadism). We recommend its use as a central component in the various processes involved in arriving at a diagnosis of sexual sadism.

Associated Features

The most commonly associated feature of sadism, at least among nonoffenders in the community, is masochism. This is perhaps not surprising since self-identified sadomasochists alternate between the two behaviors. In addition, there is some evidence that sadists also display other paraphilias

such as fetishism and transvestic fetishism (Dietz et al. 1990).

One of the most relevant studies of features associated with sexual sadism is a report by Prox et al. (2005). They showed that sadists, relative to matched nonsadists, displayed a higher incidence of an array of personality disorders. These offenders were more likely to show evidence of schizoid, avoidant, histrionic, and schizotypal personalities. During the immediate pre-crime phase, the sadists had far more frequent conflicts with women and were in a state of considerable anger prior to and during their offense.

Sadists have also been shown to have greater interpersonal difficulties than other sex offenders. For example, sadists in the study by MacCulloch et al. (1983), all reported significant problems interacting with others particularly in sociosexual interactions. These problems, MacCulloch et al. said, contributed to the sadists' development of a low sense of self-worth which aggravated their social isolation leading to anger at the world and anger specifically directed at women.

Finally, there is some evidence that sadists suffer from physiopathologies of the right frontal cortex (see Hucker 1997 for a review). Just what role these issues have in the etiology and maintenance of sexual sadism remains unclear, but further studies of brain functioning are clearly justified and needed. Examinations of endocrine abnormalities have not revealed anything distinct about sadists despite the common deployment of pharmacological agents in the treatment of serious sex offenders including sadists (Bradford 2000).

Prevalence

The incidence of sexual sadism in the non-adjudicated community was reported in the landmark study by Kinsey et al. (1953) to be between 3% and 12% among women and 10–20% among men. Since sadistic themes appear to be common in mainstream pornography (Donnelly and Fraser 1998; Grubin 1994), it seems likely that many of the people attracted to these images do not act out with nonconsenting partners. In DSM-5 terms, these people would

meet criteria for a “sexual sadism paraphilia” but not a “sexual sadism paraphilic disorder.” While these people constitute an interesting and potentially problematic group in terms of possible future propensities, they are not usually the focus of clinical attention. It is those who have offended who are predominantly the focus of diagnosis and treatment.

Various authors have attempted to estimate the prevalence of sexual sadism among sex offenders. In these reports the rates vary from 2% to 5% to as much as 50%. In their review, Marshall and Kennedy (2003) observed that many estimates of prevalence came from centers that specialized in the assessment and treatment of sadists so that their estimates would necessarily be toward the high end of the spectrum. Nitschke et al. (2012) examined prevalence rates from three centers that select sex offenders on the basis of the seriousness of their crimes. Across these centers the average rates of sexual sadism were approximately the same (6.1%).

Risk to Reoffend

There is now available an extensive body of evidence on the risk to reoffend of sexual offenders (Hanson et al. 2003). This research has identified features that allow appraisers to categorize offenders into low, moderate, or high risk to reoffend. According to risk assessment instruments derived from these studies, sadists will likely fall into the high-risk category. However, it is important to note that this is not the result of the unique features of sadists but rather because they typically share offense and life history features with high-risk rapists. What is needed are studies of the way in which sadistic features might predict reoffense potential as well as the potential for, and degree of, likely harm.

To date there have been only two studies of the future risk to reoffend that are specific to sexual sadists. In the more informative of these, Berner et al. (2003) identified higher reoffense rates (40%) among sadists than was true for nonsadistic sex offenders (29%). A report by Knight et al. (1998) indicated that the sadistic aspects of sex crimes displayed the greatest consistency over

repeated offenses. It appears then that sadists are at considerable risk to reoffend although larger-scale replications are needed. Most importantly, sexual sadists who do reoffend also inflict serious harm to their victims including, in some instances, death. Unfortunately, the issue of harm to future victims or its reduction has been neglected to date. This neglect of potential harm has been true in all studies of future risk among sex offenders of all types (e.g., Hanson et al. 2003) and in all studies of treatment outcome (e.g., Hanson et al. 2002; Lösel and Schmucker 2005). This issue needs to be addressed in future research, but in the meantime clinicians must keep in mind this potential for serious harm in sadistic offenses.

Etiology

Little has been written about the specific etiology of sexual sadism although there is a plethora of accounts of the general development of sexual offending (see the extensive volume edited by Ward and Beech, *in press*). Generally, these theories posit disturbances in attachment relationships in childhood, problems in negotiating the tumultuous years of adolescence, and the tasks involved in establishing fulfilling adult romantic and sexual relationships. It seems likely that difficulties at each of these stages will characterize the developmental course of the emergence of sadism, and some evidence already suggests this (MacCulloch et al. 1983). In the absence of more extensive evidence, it would seem wise for clinicians evaluating and treating sexual sadists to examine with their clients each of these developmental stages while we await more helpful research findings.

Treatment

There have been predominantly two approaches to the treatment of sex offenders: cognitive behavior therapy (CBT) and pharmacological interventions. However, it should be noted that there do not appear to be any studies of either of these approaches that have specifically targeted sexual sadists. It is apparent among CBT approaches that,

for the most parts, all sex offenders are offered the same treatment with the extent and perhaps intensity, being adjusted for those offenders judged to be at differing levels of risk to commit further crimes. Large-scale meta-analyses have shown CBT to be an effective approach to reducing reoffending rates although the reductions are not always remarkable (Hanson et al. 2002; Lösel and Schmucker 2005). However, it is impossible to determine how many sadists were in these studies and how well they fared. Nevertheless, the best course of action, in the present state of knowledge, would appear to be to offer sexual sadists a place in such a program and to energetically encourage them to accept the offer.

Bradford (2000) has been a champion of the use of pharmacological agents, particularly in severe cases of sexual offending, although he generally advocates a combination of medications and CBT. In Lösel and Schmucker's (2005) meta-analysis, pharmacological treatments appeared to produce marginally better outcomes than CBT, but it is not clear that the studies they reported used antiandrogenic medications alone. Grubin (2008), a British psychiatrist, noted in his review that with few exceptions, the reports of pharmacological interventions "involve small numbers of subjects; they often fail to take into account subjects who drop out of treatment; and they are reliant on self-report measures of sexual activity" (p. 605). Also most of these reports note the potential for serious side effects such as feminization, depression, weight gain, and gynecomastia. Although somewhat uncommon, these side effects present a cautionary tale that clinicians must attend to in the use of these agents.

On the basis of the literature, perhaps the best course of treatment in the case of severe sexual sadists is to offer a combination of CBT and antiandrogens with the aim of eventually weaning the client off the medications.

Conclusions

Yates et al. (2008), in their comprehensive review, declare that "sexual sadism has proved to be an elusive concept to define and measure...the

psychopathology of the disorder remains uncertain... (and even the most) recent research suggests unreliability in the diagnosis" (p. 213). Given the serious nature of this putative diagnosis, and the dreadful consequences for the victims of the individuals so affected, these observations by Yates et al. offer serious cause for concern. Unfortunately, our current summary of the knowledge bearing on the issue offers little comfort to clinicians who are given the responsibility of diagnosing and treating these offenders. While it is tempting to offer the typical call for further research such an agenda is unlikely to advance understanding until the various investigators can agree on the critical features of sadism. Unfortunately, clinicians faced with clients who engage in sadistic, or sadistic-like behaviors, do not have the luxury of waiting for studies that might clarify their tasks.

At present, the best approach to diagnosis, offered in the literature to date, would seem to be a combination of Nitschke et al.'s (2009) scale along with the results of several in-depth interviews and adherence to the DSM-5 criteria. Where it is available, phallometric test results employing the stimuli generated by Proulx et al. (2006) should significantly enhance the validity of a diagnosis. As for treatment, the most sensible approach, given current knowledge, would appear to involve a carefully monitored administration of an antiandrogen, complemented by cognitive behavior therapy aimed at overcoming what seem likely to be an array of personal and interpersonal deficits. Proulx et al.'s (2005) observations of associated personality disorders should be investigated and addressed in treatment as should MacCulloch et al.'s (1983) noted deficits in interpersonal skills. Upon discharge from a program or institutional setting, sadists need careful and extended monitoring in the community.

Cross-References

- ▶ [Attachment Theory](#)
- ▶ [Cognitive Behavioral Therapy](#)
- ▶ [Humiliation](#)
- ▶ [Personality Disorder](#)
- ▶ [Personality and Sexual Addiction](#)

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Sexual Selection

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Synonyms

[Human evolution](#); [Natural selection](#)

Definition

A primary component of natural selection in which human and nonhuman animals compete for potential mates within the same sex and species, in relation to reproductive success, by means of female choice and male competition.

Overview

Sexual selection and the evolution of human mating behaviors may serve a function of the large individual differences in biology, motivation, cognition, and personality traits (e.g., Big 5) in any given population. Because sexual selection is a primary factor in human evolution, it should have a significant impact on the success of a species in natural selection for specific differences among individual and group selection for mates with personality and individual traits selected for by the opposite sex.

Introduction

Human sexual behavior and human sex differences have been studied from various approaches and, recently, have been studied from an evolutionary psychology framework (Geary et al. 2004). Sexual selection is a primary factor in the evolution of human sex differences and behaviors. Sexual selection is a component of natural selection in which mating success and survival is a

cost-benefit trade-off. In natural selection, environmental factors establish pressures on humans that result in a species reproducing more offspring across generations (e.g., early modern human tribes that could produce fire, tools, and/or agriculture were more likely to acquire food, make shelter, live longer, potentially mate, become leaders, pass on genetic traits and biological culture). Humans are a social species, and all psychological processes should have been selected to facilitate group interaction in some way (Mather 2007). Sexual selection requires anisogamy (male and female gametes) for competition and choice among the sexes (Mather 2015). Sexual selection is when competition occurs within a species biological sex group. Female and male humans both compete within the same sex and choose mates to reproduce with. However, these sexual selection strategies can vary on the advantages that certain individuals inherit rather than other individuals. For example, individuals who exhibit better social interaction than others may be selected for by the opposite sex and more likely to produce offspring that inherit greater social intelligence.

Darwin (1871) was led to the concept of sexual selection to account for behavioral and physical species-specific traits that were coupled with ecology dynamics that directly impact and influence competition for mates and mate choice (Ghiselin 1974). Although some characteristics cannot be explained by natural selection (e.g., the peacock, hairlessness, racial differences, and others), sexual selection is adopted as a major pressure on the evolution of a species (Campbell 1972; Cronin 1991). Sexual selection reinforces a species commitment to individual selection (competition between all individuals) rather than some groups having a greater advantage because of their physical characteristics (Ruse 2015).

Intersexual and Intrasexual Selection

The concept of sexual selection has come to be considered a significant component in human mating choices and sex differences. Two established principle components of sexual

selection include intersexual choice and intrasexual competition (Andersson and Simmons 2006). Intersexual and intrasexual selections typically take the form of female choice and male-male competition. Competition usually involves the animal that has to do the chasing, and choice usually refers to the sex that has to invest the most into producing and parenting offspring.

Parental Investment and Parental Choice

In human sexual selection, women invest more in offspring than men do through gestation and nursing for up to several years in foraging societies (Eibl-Eibesfeldt 1989).

There are sex differences in the relative costs and benefits of reproduction and investing in offspring. Thus, human mating strategies are associated with the degree to which each sex invests in parental care. Trivers (1972) proposed a model of overall reproduction effort that included mating effort, parental investment (cost related to raising offspring that decreases parent's investment in other offspring), and sometimes nepotism (aiding in the survival or potential offspring of relatives). Sexual selection and reproduction efforts across mating and parenting may vary based on the potential reproductive rate, the operational sex ratio (ratio of sexually active females to males in a region), and mating systems (Geary 2010). For example, in China, there is a great disparity in the sex ratio of females to males in the country (Zhou et al. 2012; Zhu et al. 2009). A surplus of males results in greater competition and risk-taking among males (physical attraction/size, aggression, investment, resources) to potentially mate with limited access to females. Moreover, fewer females results in a stringent, risk-avoiding mate selection strategy in which females can afford to be choosy in mating decisions (Shan et al. 2012).

Why Sex?

Sexual intercourse is very important to the evolution of human mating behaviors. The “sexy sons” model considers female choice for attractive

males will result in attractive, healthier offspring that will be more likely to reproduce. Adaptive and desirable male features may become exaggerated over generations through runaway selection – when a male feature and the female preference for that feature become genetically linked (Fisher 1930). The good genes model is concerned with the genetic benefits provided by higher quality males to offspring. This theory explains how females find males with the best genes. Good genes result in better health and higher reproductive success in offspring (Borgia 2006).

Utility Versus Beauty

Most research on sexual selection has focused on female choice at the individual level (Buss 1998; Trivers 1972). Much of this research has focused on personality traits and individual differences related to mate choice (Miller 1998, 2011; Miller and Todd 1998). Other popular lines of research have examined alternative explanations for human sex differences in mate selection (Apostolou 2007; Archer 2009; Buss and Duntley 2006; Buss and Shackelford 1997; Sell et al. 2008).

Recent research has suggested that human sexual behavior evolved to favor contest competition and that excluding competitors by force, threat, or deception overrides other mechanisms of sexual selection such as mate choice, sperm competitions, size, and attractiveness (Puts 2010). Thus, how competition and performance vary according to human personality traits and individual differences in performance is of significant importance in evolution research.

Evolutionary Biology, Personality, and Individual Differences

Evolutionary psychologists have been researching primary commonalities and differences among individual mate choice and sex differences for decades. Research in personality and individual differences has been lent large support because of shared concerns that evolutionary biologists broadly share with personality psychology (Buss 1984). Readers should read Buss (1991) and Buss

and Penke (2015) for a full literature review of research on evolutionary personality psychology and individual differences.

However, other researchers have stated that evolutionary psychological frameworks do not fully account for individual differences in personality (Nettle 2005).

Current evolutionary psychology research is investigating human mate selection and evolutionary processes by simulating phenomenon with agent-based modeling.

Individual Differences in Personality on Sexual Selection

The pressures of sexual selection have a large impact on an individual's personality and behavior. There are arguments that the Big Five dimensions of human personality, particularly extraversion, vary among individuals as the result of a trade-off between fitness costs and benefits (Nettle 2005, 2006). For example, flirting has been proposed as a class of covert sexual signaling that signals human courtship while minimizing the costs that accompany an overt courtship (Gersick and Kurzban 2014).

Conclusion

Sexual selection is a principle component in natural selection in which humans and nonhuman animals are pressured to compete for mates through intersexual and intrasexual selection to successfully reproduce. Individuals who possess traits that are valued by the opposite sex will be more likely to survive and produce more offspring. These individual differences contribute to the genetic and behavioral variability in personality traits that fuel sexual selection.

Cross-References

- ▶ [Evolutionary Psychology](#)
- ▶ [Individual Differences](#)
- ▶ [Personality](#)
- ▶ [Social Selection for Human Altruism](#)

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Sexual Self-Concept

- [Sexual Identity](#)

Sexual Self-Image

- [Sexual Identity](#)

Sexually Antagonistic Selection

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Synonyms

[Sexual antagonism](#) (which can also refer more generally to other dynamics involving conflicting evolutionary interests between the sexes)

Definition

Selection (either natural or sexual) acting in opposite directions in males versus females on traits or genes that are expressed by both sexes.

Introduction

Due to their divergent reproductive roles, males and females often experience pronounced differences in the strength, direction, and form of natural and sexual selection on aspects of behavior, morphology, and physiology that are expressed by both sexes. When selection acts in opposing directions in males versus females (e.g., by favoring large size in males and small size in females), it is said to be *sexually antagonistic*. Consequently, for the loci that underlie traits subject to sexually antagonistic selection, different alleles are favored in each sex. Because males and females of a species share a genome, alleles that are detrimental when expressed in one sex may be maintained in a population because they are favored in the opposite sex, thus impeding adaptation and

reducing the fitness of the population. This genomic tug-of-war is referred to as *intra-locus sexual conflict* and may have important consequences for mate choice and the maintenance of phenotypic and genetic variation in natural populations. The resolution of intra-locus sexual conflict can occur through a variety of mechanisms that facilitate the sex-specific inheritance and expression of genes subject to sexually antagonistic selection.

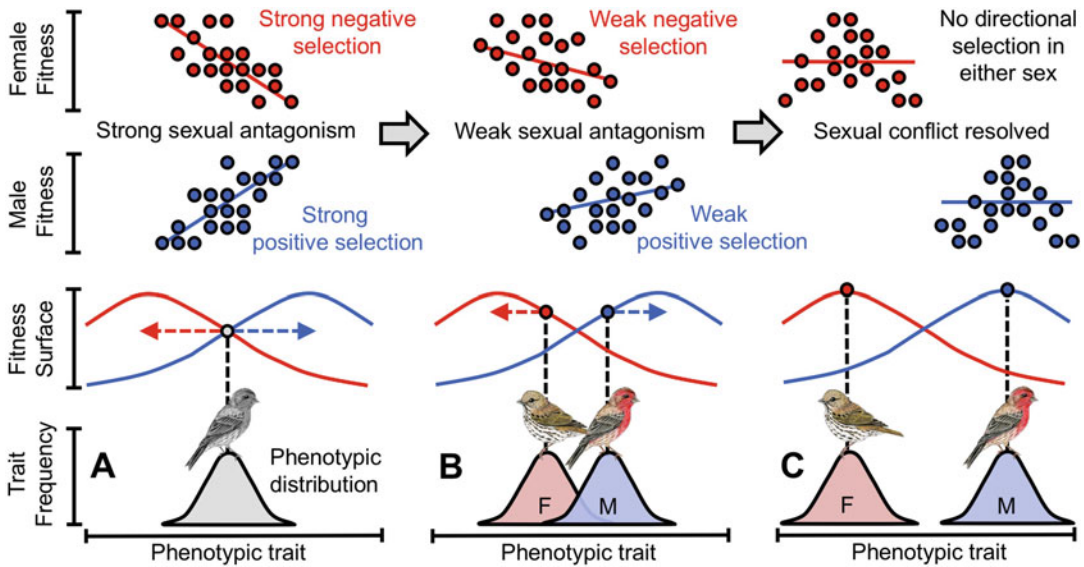
Sexually Antagonistic Selection

Males and females are defined by *anisogamy* – males produce many small gametes (e.g., sperm), whereas females produce fewer, larger gametes (e.g., eggs). Consequently, males and females often employ very different strategies to maximize their fitness, and these strategies often favor very different traits (and different underlying genes) in each sex. This fundamental difference in reproductive roles is the ultimate source of sexually antagonistic selection, which can arise through differences between males and females in the way that traits influence survival (viability selection), reproductive output (fecundity selection), or mating and fertilization success (sexual selection). It is important to distinguish between *sexual selection*, which is defined by the component of fitness (mating or fertilization success) that gives rise to selection, and *sexually antagonistic selection*, which is defined by opposing directions of selection in each sex, irrespective of the component of fitness that generates selection. Strict definitions of sexually antagonistic selection require that the directional component of selection (i.e., selection for an increase or decrease in the mean value of a trait within a population) is opposite between sexes (Fig. 1). Less restrictive terms, such as *sex-specific selection*, are often used to describe the many other ways in which the strength or form of selection can differ between males and females.

Tests for sexually antagonistic selection are often performed using *phenotypic selection analyses*, in which a measure of relative fitness (an individual's observed survival, number of

mates, or number of progeny divided by the population mean) is regressed on values of a trait (or traits) that are also standardized to the population mean and expressed in units of variance. For a single trait, the slope of this regression is a *selection differential* that describes the extent to which selection favors an increase or decrease in the population mean for that trait. For multiple traits, partial correlation coefficients provide *selection gradients* that partition direct selection on each trait from indirect selection arising via correlations with other traits. Sexually antagonistic selection occurs when these selection differentials or gradients have opposite signs in each sex (Fig. 1). Examples of phenotypic selection analyses demonstrating sex differences in natural and sexual selection on shared traits include studies of body sizes in lizards (Cox and Calsbeek 2010), body size and bill morphology in house finches (Badyaev and Martin 2000), and body size and shape in water striders (Fairbairn 2007). Synthetic reviews of these and many other phenotypic selection analyses in wild animal populations suggest that sexually antagonistic selection is common and tends to be strongest when arising from sexual selection, rather than fecundity or viability selection (Cox and Calsbeek 2009).

Sexually antagonistic selection is a primary cause of *sexual dimorphism*, which can refer to any phenotypic difference between males and females of a species, including aspects of physiology and behavior in addition to morphology. Sexual dimorphism is often viewed as the outcome of past sexually antagonistic selection, though sexually dimorphic phenotypes are also commonly found to be under current sexually antagonistic selection (Cox and Calsbeek 2009), suggesting that males and females are still evolving toward their respective fitness optima (Fig. 1B). Theory predicts that the evolution of sexual dimorphism under sexually antagonistic selection should occur gradually due to the constraints imposed by a single genome that is shared between males and females. For example, selection favoring large body size in males will, by definition (and assuming a genetic basis for body size), result in disproportionately more genes for



Sexually Antagonistic Selection, Fig. 1 Hypothetical stages in the evolution of sexual dimorphism in response to sexually antagonistic selection. *Panel A* illustrates a sexually monomorphic trait with different fitness optima in males and females, resulting in sexually antagonistic selection that is quantified by the opposing slopes (i.e., selection differentials) of the relationships between relative fitness (some measure of survival, mating success, or lifetime reproductive success) and phenotype across individual females and males, as shown in the *top* panels depicting phenotypic selection analyses. If the phenotype has a genetic basis that is shared between males and females, this creates intralocus sexual conflict. *Panel B* illustrates the evolution of sexual dimorphism as male and female

phenotypic distributions move toward their respective fitness optima in response to sexually antagonistic selection. This is achieved by the evolution of sex-biased inheritance or expression of the genes underlying this phenotype and can weaken the strength of sexually antagonistic selection as males and females approach their respective fitness optima. *Panel C* illustrates a hypothetical endpoint in which the phenotypic distributions of males and females match their fitness optima, which eliminates purely directional selection in either sex and theoretically resolves sexual conflict at the loci for this trait. In principle, any quantitative phenotype (behavioral, physiological, morphological) can be analyzed in this fashion

large size being passed on from fathers to their offspring, whereas sexually antagonistic selection favoring small body size in females will result in more genes for small size being passed on from mothers to their offspring. Because each offspring inherits both maternal and paternal genes, both “male-benefit” alleles for large size and “female-benefit” alleles for small size will be represented in the next generation. This presents a problem not only because it hinders the independent evolution of body size in each sex but also because it leads to the production of daughters with paternally inherited “female-detriment” alleles for large size and sons with maternally inherited “male-detriment” alleles for small size.

This phenomenon, which results from the combination of sexually antagonistic selection and a

shared genetic basis for the trait(s) under antagonistic selection, is referred to as *intralocus sexual conflict* (Bonduriansky and Chenoweth 2009). Studies of fruit flies have been particularly informative in this area of research, demonstrating that entire genomes that confer high fitness in males yield low fitness when expressed in females, and vice versa (Chippindale et al. 2001). When manifest across many traits and their underlying loci, genome-wide intralocus sexual conflict of this nature can result a seemingly paradoxical situation in which the fittest males (or females) in a population produce the least fit daughters (or sons). For example, female fruit flies with genomes that confer high fecundity suffer a cost through the production of low-fitness sons, and males with genomes that confer high mating

success suffer a cost through the production of low-quality daughters. These high-fitness males also fail to recoup this cost via the production of significantly better sons due to the preponderance of sexually antagonistic genes on the X chromosome, which is not transmitted from father to son. Consequently, mating crosses between high-fitness males and females paradoxically produce the least fit progeny, which has broad implications for sexual selection theory in that it should severely limit the potential for females (and males) to select mates on the basis of “good genes” for their offspring because “good” is entirely conditional on the sex of the offspring (Pischedda and Chippindale 2006). More generally, intralocus sexual conflict can act as a form of balancing selection that maintains individual variation at both genetic and phenotypic levels by favoring different suites of genes and phenotypes in each sex.

The resolution of sexual conflict requires that the genes underlying the traits subject to sexually antagonistic selection become sex-limited or sex-biased in their inheritance or expression. One seemingly straightforward solution to this problem is for sexually antagonistic genes to reside on sex chromosomes, where they will be inherited by only one sex (e.g., Y chromosomes in males) or in different dosages in each sex (e.g., XX females and XY males). This is referred to as *sex linkage*. Nonetheless, the vast majority of genes reside on autosomes in most sexual species, X chromosomes still spend a third of their time under selection in males, Y chromosomes typically harbor little in the way of functional genetic content due to their inability to recombine during meiosis, and many species lack sex chromosomes entirely. A presumably more general solution to intralocus sexual conflict is for genes to become sex-biased in their expression (i.e., transcription into mRNA). The sex-specific expression of autosomal genes can be accomplished on a gene- and tissue-specific basis via regulatory loci on sex chromosomes, by sex hormones that circulate at different levels in each sex, or by sex-specific splicing variants (isoforms) of transcription factors that influence sexual differentiation. Other potential

mechanisms for the resolution of intralocus sexual conflict include genomic imprinting (targeted silencing of genes depending upon the sex of the parent and offspring), gene duplication (allowing new gene copies to be co-opted for sex-specific functions), and cryptic sex-ratio bias (differential production of sons versus daughters based on parental phenotype or genotype). Most of these mechanisms can also be viewed as solutions to the problem of producing two distinct phenotypes from the same underlying genome, illustrating how the resolution of intralocus sexual conflict is closely associated with the evolution of sexual dimorphism in response to sexually antagonistic selection (Bedhomme and Chippindale 2007; Cox and Calsbeek 2009).

Conclusion

Sexually antagonistic selection is common in wild populations and can arise from both natural and sexual selection. Current research is attempting to link phenotypic studies of sexually antagonistic selection with a better understanding of its consequences in terms of the underlying genes that are shared by males and females. Though many genetic mechanisms have been identified as potential solutions to the ensuing problem of intralocus sexual conflict, theory and empirical data each suggest that a complete and lasting resolution to this intersexual genomic conflict is unlikely in most situations (Bedhomme and Chippindale 2007; Mank et al. 2008; Pennell and Morrow 2013). Therefore, sexual antagonism may be a chronic feature of most sexual species with broad evolutionary implications for the genetic benefits of mate choice and the maintenance of both genetic and phenotypic variation.

Cross-References

- ▶ [Natural Selection](#)
- ▶ [Reproduction](#)
- ▶ [Sexual Selection](#)

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individuals through deception, coercion, or force (Buss and Duntley 2008). More specifically, sexually exploitative strategies allow individuals to gain sexual access when a potential mate is not willing to grant it (Goetz et al. 2012).

Introduction

Because sexual access has recurrently been a limiting resource for human males, we should expect sexually exploitative strategies to have evolved particularly in males. Mechanisms that produce sexually exploitative strategies are hypothesized to contain particular design features. First, such strategies require an assessment of potential victims to determine which targets represent a favorable risk-to-reward ratio should an attempt at exploitation be made (i.e., an assessment of cues to sexual exploitability). Second, there is evidence that mechanisms for sexual exploitation modulate feelings of sexual desire and attraction to motivate sexually exploitative strategies when an assessment suggests a fitness beneficial outcome. Finally, although these mechanisms are part of men's universal, evolved cognitive architecture, they may be differentially calibrated due to environmental and developmental influences, resulting in individual differences in the likelihood of implementing sexually exploitative strategies. Research on sexually exploitative strategies that uses an evolutionary functional approach has been central to helping us understand features of exploitative psychological mechanisms and characteristics of perpetrators and victims.

Sexually Exploitative Strategy

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Definition

Exploitative resource acquisition strategies facilitate resource accrual by taking advantage of other

Sexually Exploitative Strategies in Men

Extant research suggests that men are sensitive to cues to sexual exploitability and that women displaying such cues are more likely to be sexually assaulted. Researchers have hypothesized that cues that indicate a woman might be more persuadable, deceivable, or coercible will activate sexually exploitative strategies. Such cues would provide information about the likelihood of success if a sexually exploitative strategy was

implemented toward a particular target. In support of this hypothesis, Goetz et al. (2012) found that women who appeared intoxicated, immature, and reckless were perceived as more sexually exploitable. There is evidence that these perceptions reflect reality – in women, low self-esteem and low assertiveness are associated with having been sexually coerced (Testa and Dermen 1999). Goetz et al. (2012) also demonstrated that women who appeared “easy,” or promiscuous, were perceived as more sexually exploitable. They argued that women who display an interest or openness to short-term sexual relationships may be initially more approachable, which could facilitate eventual exploitation. Women with unrestricted sociosexuality (i.e., more inclined to short-term mate) report a greater likelihood of being approached by males with sexual intentions. Furthermore, casual sexual activity is positively associated with sexual coercion and rape (Testa and Dermen 1999). Other hypothesized cues to sexual exploitability include physical cues that indicate a woman could be more easily physically overpowered. In one study assessing vulnerability to physical attack in general, characteristics including shorter gait and slower walking speed were associated with being perceived as easier to attack (Gunns et al. 2002). Women with a shorter gait and slower walking speed are also rated as more likely to be targets of sexual advances (Sakaguchi and Hasegawa 2006). These studies suggest that men’s psychology comes equipped with assessment mechanisms attuned to cues and characteristics indicative of ease of sexual exploitability.

Although victim assessment is one feature of exploitative strategies, strategies that violate social norms, cause harm in another, or potentially harm the enactor of the strategy also require motivation impetus. Goetz et al. (2012) found evidence that men find cues to sexual exploitability to be sexually attractive. Furthermore, they demonstrated that the presence of sexual exploitability cues enhanced a woman’s short-term mate attractiveness, but detracted from her long-term mate attractiveness. This suggests that sexual exploitation mechanisms involve functionally specific motivating emotions. Sexual attraction can motivate short-term pursuit without resulting in a deep bond, or the desire for an entangling commitment.

This may benefit perpetrators who want to avoid further association with, or commitment to, their victims. Women also recognize that men find sexual exploitability to be sexually attractive, and short-term mating inclined women use this to their advantage when attracting mates (Goetz et al. 2014a, b). Arguments from feminist perspectives often focus on power and control as motivators for sexual assault and rape. Although instances of sexual exploitation undoubtedly involve the perpetrator wielding power over the victim, these studies suggest that sexual desire is part of the proximate system motivating sexual exploitation.

Individual differences influence the likelihood that men will engage in sexually exploitative strategies. Malamuth (1998) categorized personality variables associated with sexual aggression into three categories. First, there are traits associated with a general orientation to assert one’s own interests over others. Second, a short-term mating orientation may consistently foster sexual conflict with women, who are generally less oriented toward short-term mating. Third, having an orientation toward using coercive tactics in response to conflict with women (known as hostile masculinity) increases the likelihood of sexual aggression. Lewis et al. (2012) found that unmated men who were more short-term mating oriented and lower in agreeableness perceived women as more sexually exploitable. Other research has demonstrated that men with psychopathic tendencies are more likely to sexually assault women (Lalumière et al. 2005). While much of the research in this domain focuses on sexually exploitative strategies that involve physical aggression, studies have also examined personality characteristics associated with perpetrators who uniquely used nonphysical strategies, like verbal pressure and threats. One such study demonstrated that perpetrators who relied on nonphysical coercive tactics had traits related to the use of verbal tactics, such as the ability to manipulate others and to imagine others’ emotional reactions (DeGue et al. 2010). This body of work highlights the fact that the evolved psychological mechanisms that produce sexually exploitative strategies may be calibrated differently depending on different environmental and developmental influences.

Sexually Exploitative Strategies in Women

What about women? Do they engage in sexually exploitative strategies? The costs and benefits associated with different types of mating relationships have shaped men's and women's mating psychology in varied and complex ways. Although there is much overlap in men's and women's mate preferences, relationship goals, and sexual desires, there are also stark differences (Conroy-Beam et al. 2015). The argument that mechanisms that motivate sexual exploitation evolved in men is predicated on the fact that men experience greater fitness benefits and fewer fitness costs, on average, from engaging in short-term sexual relationships. For men, enacting a sexually exploitative strategy could be fitness beneficial because it provides him the benefits of a low-cost sexual encounter even when a woman does not want him as a mate.

Limited research has examined women's use of sexually coercive tactics. Across studies men do report having been sexually victimized by women (e.g., Struckman-Johnson and Struckman-Johnson 1994). Although both men and women use similarly coercive tactics, the predictors of sexual aggression perpetration differ by sex. For example, one study found that sexual dominance and sociosexuality were predictors of sexual coercion by men, but not by women. In women, perpetrating sexual coercion was predicted by childhood sexual abuse and sexual compulsivity (Schatzel-Murphy et al. 2009). Narcissism is also positively related to the use of sexually coercive tactics in both sexes. However, in men, sexual coercion and aggression is related to the more socially desirable aspects of narcissism, such as leadership and authority, while in women sexual coerciveness is related to the maladaptive components of narcissism (Blinkhorn et al. 2015). One possible explanation for these findings is that when women use coercive tactics, it is not strategic but the result of maladaptive psychological functioning. For women, exploiting a man for sex alone could be quite costly. It could result in her bearing the costs of pregnancy and child-rearing alone, while also making her less attractive to other mates who could provide assistance. Neither rationale from an evolutionary theoretical perspective

nor the existing data on sexual aggression by women provide evidence that sexual exploitation committed by women is strategic in nature. Future research will benefit from examining female perpetrators to determine if their behavior is consistent with a pathological cause or if there is evidence it comprises an evolved sexual strategy.

Still, women may have exploitative strategies of their own. Rather than exploiting men for sexual access, they may have evolved strategies to obtain access to other resources held by males. This could include resources like provisions, status, or protection. We should expect women's exploitation mechanisms to have similar features as men's, such as assessment mechanisms to determine which men have the needed resources and represent a favorable risk-to-reward ratio, and motivational systems to foster exploitation of the needed resources. We should also expect individual differences in women's exploitation mechanisms based on environmental and developmental influences.

Conclusion

Sexually exploitative strategies dominate research interest because their use can have a devastating impact on victims. An evolutionary functional approach reveals design features of the psychology producing these strategies and provides avenues for future research about perpetrators and victims. Our understanding of sexually exploitative strategies is useful for predicting and preventing sexual assault and for exploring unknown features of men's and women's psychology.

Cross-References

- ▶ [Reproduction](#)
- ▶ [Sexual Promiscuity](#)

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Sexually Unrestricted

- ▶ [Sexual Promiscuity](#)

SF-CSEI

- ▶ [Self-Esteem Inventory \(Coopersmith\)](#)

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Todd K. Shackelford, Ph.D., is Distinguished Professor and Chair of the Department of Psychology and Co-Director of the Evolutionary Psychology Lab, at Oakland University. He is the Editor of *Evolutionary Psychology* and *Evolutionary Psychological Science*, Senior Associate Editor of *Personality and Individual Differences*, and Associate Editor of *Behavioral Sciences of Terrorism and Political Aggression*. He is also the Co-Editor of the comprehensive three-volume *SAGE Handbook of Personality and Individual Differences*. His research addresses individual differences in human sexual psychology and behavior and sexual conflict from an evolutionary psychological perspective.

Early Life and Education

Todd Shackelford was born in Tulsa, Oklahoma, in 1971. Upon finishing high school in 1989, he secured a scholarship to attend The University of New Mexico. Little did he know that his move was a step into the heart of a fairly new field in psychology, evolutionary psychology, which he continued to pursue successfully until this day. During his undergraduate studies, Todd was

especially inspired by and learned from professors Steve Gangestad, Randy Thornhill, Hillard Kaplan, and Kim Hill. Determined to study evolutionary psychology in graduate school, he joined David Buss's lab at the University of Michigan, Department of Psychology, in 1993. He then moved from Michigan to The University of Texas at Austin with David Buss's lab, where he completed his Ph.D. in evolutionary psychology in 1997. David Buss played a significant role in Todd's intellectual development and in his personal and professional life; "I particularly respected his [David Buss's] remarkable work ethic and curious mind" (Shackelford, personal communication).

Professional Career

Todd spent the first 13 years of his academic career in the Department of Psychology at Florida Atlantic University (FAU), where in less than 10 years, he received tenure and was promoted to Full Professor. At FAU, Todd founded and chaired the Evolutionary Psychology program. He advised and chaired more than 20 graduate students' Masters and Doctoral theses. In 2010, Todd accepted an offer to chair the Department of Psychology at Oakland University, Michigan. There he founded and has co-directed the prolific Evolutionary Psychology lab, mentoring and advising dozens of undergraduate and graduate students. He also founded and co-chaired the Ph.D. and M.S. programs in psychology. Since then, the program has successfully graduated over a dozen Ph.D. students and over three dozen M.S. students. For his notable scholarship and dedication to the psychology department and development of students, in a few short years, Todd was appointed *Distinguished Professor* by the Oakland University Board of Trustees, on recommendation of the President and the Provost. Oakland University's Office of the Provost wrote on this accomplishment, "In six years, he [Todd Shackelford] has raised the University's international profile in the field of psychology. To support a growing student enrollment, he recruited new faculty and developed Masters of Science

and Doctor of Philosophy programs in the Department of Psychology, and attracted international scholars to interdisciplinary conferences on campus." Todd has been the recipient of numerous awards and honors by local, national, and international organizations for his substantial scientific contributions, outstanding teaching, and achievements in research. To mention a few, he was awarded Fellow status by the International Association for Research on Aggression in 2005 and by the Association for Psychological Science and the American Psychological Association in 2009 and 2011. Since 2015, he has served as Secretary/Archivist and Executive Council Member for the Human Behavior and Evolution Society. Currently, Todd is a member of the Inaugural Advisory Board, The Oklahoma Center for Evolutionary Analysis (The Ocean), Oklahoma State University, Stillwater, Oklahoma. He is also the Editor of *Evolutionary Psychology* and *Evolutionary Psychological Science*, Senior Associate Editor of *Personality and Individual Differences*, Associate Editor of *Journal of Personality*, Co-Editor-in-Chief of *Encyclopedia of Personality and Individual Differences* and *Encyclopedia of Evolutionary Psychological Science*, and Co-Editor of *Springer Series in Evolutionary Psychology*. He has served on the Editorial Board of more than 30 peer-reviewed journals. He is the author or co-author of around 400 peer-reviewed journal articles and book chapters and over 300 professional presentations. He has co-edited 19 books. His work has been cited over 19,000 times.

Research Interests

Todd's main research interest is on investigating sexual conflict between men and women from an evolutionary perspective. He has significantly contributed to the understanding of mating preferences and behaviors, marital relationships, romantic and sexual jealousy, infidelity, intimate partner violence, and homicide by documenting ultimate as well as proximate predictors of such behaviors including personality and individual differences and life histories.

Some of Todd's early research addressed the psychology of infidelity and romantic and sexual jealousy (Shackelford et al. 2002). Along with David Buss, he studied cues to infidelity and individual differences and relationship contexts that predict infidelity in long-term intimate and marital relationships. In a series of studies, Todd and colleagues also investigated and provided evidence for sex differences in jealousy in response to the type of infidelity (sexual, emotional, or both), across multiple cultures. Todd continued this work at FAU with his students, addressing emotional reactions to different types of infidelity and experiences of romantic and sexual jealousy among older adults.

Todd has made some of his most important contributions to understanding sexual conflict in humans in the area of intimate partner violence and homicide. With his students and colleagues, Todd has built a comprehensive model of men's violence against their female partners that includes both evolutionary, distal predictors and proximate, individual differences in perpetration of psychological, physical, and sexual violence. They have hypothesized that female-directed violence may be a form of mate retention behavior evolved to decrease the risk of female sexual infidelity. The studies that followed documented (1) perceived risk of infidelity to be a significant predictor of men's violence against female partners and (2) interactions between Big Five personality traits and perceived infidelity risk in predicting such violence (Kaighobadi et al. 2009). More recently, Todd and his students have investigated the role of life histories in predicting perpetration of intimate partner violence (Barbaro and Shackelford 2019). Todd's research on intimate partner violence has been featured in numerous prestigious scholarly journals such as *Archives of Sexual Behavior*, *Journal of Interpersonal Violence*, *Journal of Research in Personality*, *Journal of Sex Research*, and *Violence & Victims*.

In a seminal research study, Todd investigated universal dimensions of mate preferences across 37 cultures (Shackelford et al. 2005). The study identified four universal dimensions and replicated previous research on sex differences in mate preferences, including women's greater

valuation of social status and men's greater valuation of physical attractiveness. With David Buss and colleagues, he also conducted an impactful study documenting the cultural evolution of mate preferences among American college students over half a century (Buss et al. 2001).

Mate retention strategies and behaviors have been another area of Todd's scholarly focus (Buss and Shackelford 1997). He has especially contributed to the literature on sex differences and personality differences in selection and frequency of mate retention behaviors, inside and outside of martial relationships (Holden et al. 2014). Todd and colleagues have documented individual differences in esteem and Big Five personality factors predicting selection and use of "cost-inflicting" and "benefit-provisioning" mate retention behaviors. More recently, Todd and his students at Oakland University complimented the existing research on mate retention behaviors by documenting clusters or strategies of mate retention behaviors and sex differences in selection of mate retention strategies (Lopes and Shackelford 2018). Todd and colleagues' work on mate retention have been featured in journals such as *Journal of Personality*, *Journal of Personality and Social Psychology*, *Journal of Social and Personal Relationships*, and *Personality and Individual Differences*.

As part of his larger research program on sexual conflict, Todd has extensively studied sperm competition in humans. Empirical literature has long supported sperm competition in nonhuman animals; the empirical evidence for sperm competition in humans however was limited before his work. Sperm competition occurs when sperm of two or more males compete for access to one female's ova. Todd provided evidence for a set of physiological, psychological, and behavioral adaptations that have evolved in response to sperm competition risk (Shackelford and Goetz 2007). More recently, Todd, students, and colleagues assessed individual differences in men's life history strategies and its association with individual differences in ejaculate quality (Barbaro et al. 2018). The results showed that men with slower life history strategies produce higher-quality ejaculates. Todd and colleagues'

theoretical and empirical research on sperm competition has been published in journals such as *Current Directions in Psychological Science*, *Journal of Comparative Psychology*, and *Review of General Psychology*.

Todd's contributions to the field of personality and individual differences also include but are not limited to documentation of individual differences in male physical traits including physical strength and risk-taking (Pham et al. 2017), age of menarche in females (Barbaro et al. 2017), rape avoidance behaviors (McKibbin et al. 2011), and mate poaching behaviors (Davies et al. 2007).

From his expansive scientific research to his outstanding teaching and mentoring of future scientists, Todd Shackelford has had valuable impact on the fields of evolutionary psychology, comparative psychology, and personality and individual differences. He has been an influential and inspiring mentor to his students, including myself, over the years. Todd has been as productive as ever in recent years. Currently, he is working on new research grants and exciting new research topics such as predictors of individual differences in ejaculate quality.

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Shadel, William

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Introduction

William G. Shadel (Bill) is a Senior Behavioral Scientist and Associate Director of the Population Health Program at the RAND Corporation. In addition, he is a faculty in the Biobehavioral Oncology Program at the University of Pittsburgh Cancer Institute and adjunct faculty in the

Department of Psychology at the University of Pittsburgh. His research applies and adapts theories and methods from personality psychology toward advancing an understanding of the mechanisms that regulate tobacco use in children, teens, and adults.

Before joining RAND in 2005, he was a faculty member in the Department of Psychology at the University of Pittsburgh (2001–2005) and the Department of Psychiatry and Human Behavior at Brown University (1997–2001).

He has been married to Nicole for nearly 20 years and, with her, is raising two spirited teenagers, Mila and Gus.

Early Life and Educational Background

Bill was born on January 22, 1968, in Washington, Pennsylvania, a small city just outside of Pittsburgh. His father (now retired) was a steelworker, union official, and part-time musician, and his mother was a full-time mother and homemaker (also now retired). He has a younger brother and sister.

His first formal exposure to psychology as a discipline was as a high school senior. He took an introductory psychology class not because of any inherent interest in the discipline per se but rather because the class was rumored to be an “easy A” and also because attendance was entirely optional. Still, the substantive content of the course had an impact on him – especially the modules devoted to psychopathology and memory/cognition. In fact, this first exposure to psychology inspired him to want to become a practicing clinical psychiatrist.

He entered Temple University in the fall of 1986. Although he entered college with pre-medicine as a major, he was advised to fill his first term with nonmajor general education classes in order to “get them out of the way”; one of those courses was introductory psychology. The course instructor Dr. Lorraine Herrenkohl, a clinical psychologist and professor at Temple, spoke frequently about her own research which examined the impact that stress has on maternal and fetal health. He became acutely interested in how

psychological factors could influence physical health and felt that he needed to know more. His conception of what psychologists and psychology could do expanded greatly. He switched his major to psychology before the end of his first term of college.

In the spring of his freshman year, he landed a job as a research assistant in the lab of Suzanne Miller, who was faculty at Temple at the time (now at Fox Chase Cancer Center). She was pursuing the “monitoring-blunting” hypothesis in healthy and at-risk populations (e.g., breast and cervical cancer patients), exploring the way that individual differences in the processing of threat information shapes people’s responses to stressful experiences. Her early research and theorizing about information processing and coping (e.g., Miller and Birnbaum 1988; Miller et al. 1988) were highly influential to his thinking. Working in Suzanne’s lab for nearly his entire time as an undergraduate cemented in his mind the idea that social-cognitive theory and, in particular, individual differences were critical to understanding people’s adaptation to their environment.

He attended graduate school at the University of Illinois at Chicago (UIC), starting in 1990. The UIC Psychology Department had a relatively unique “matrix” structure to its graduate program in those days. Graduate students chose an applied field (i.e., clinical, industrial-organizational, academic) and a substantive field from one of the more “basic” scientific disciplines in psychology (i.e., cognitive, developmental, neuroscience, social-personality) and went on to complete the coursework, preliminary exams, and requirements for the PhD in both fields. The idea of integrating a basic psychological discipline with clinical psychology was particularly appealing to him and was consistent with the thinking he developed in as an undergraduate at Temple. Within this training matrix, he received training in clinical psychology with a specialization in health psychology and also in social-personality psychology. He was able to successfully marry the two disciplinary worlds together during graduate school. His master’s thesis (Shadel and Mermelstein 1993) focused on the role of cognitive coping expectancies in smokers, and his

dissertation (Shadel and Mermelstein 1996) addressed the role of the social-cognitive self-concept in smokers.

Robin Mermelstein was his advisor and mentor at UIC, helping him not only to navigate the rigors and formalities of the graduate program but also to become fully immersed in the interdisciplinary research activities of what was then known as the UIC Prevention Research Center (now the UIC Institute for Health Research and Policy). He worked on Robin's early NIH-funded research that tested cognitive-behavioral treatments designed to prevent relapse in adult smokers (e.g., Gruder et al. 1993; Hedeker and Mermelstein 1996). This work had the effect of focusing his applied clinical research interests on cigarette smoking and tobacco use.

At the same time that his applied interests gelled around cigarettes and tobacco, his interests in personality came into focus, specifically, to cognitive-affective models of personality and, more broadly, to conceptual debates and tensions within the field (see Kenrick and Funder 1988). He was strongly influenced by Walter Mischel's seminal critique of the field (1968) and subsequent call for the field to move forward with more dynamic, cognitive-affective models of social behavior (Mischel 1973; Mischel and Shoda 1995). His exposure to these concepts and ideas was further reinforced at UIC by the work of Dan Cervone (e.g., Cervone 1991, 2004). Moreover, in his second year of graduate study, he read a somewhat one-sided article in the *American Psychologist* on the (then) state of personality psychology, and he felt that a response was warranted. After some lively discussion with Dan about the central issues in the original article, they coauthored a response commentary that was later published in *American Psychologist* (Shadel and Cervone 1993).

He completed a clinical psychology internship (1994–1995) and a postdoctoral fellowship (1995–1997) in behavioral medicine at the Brown University Center for Behavioral and Preventive Medicine, working with Ray Niaura and David Abrams (both now at the Truth Initiative). David and Ray had been publishing conceptually innovative articles that integrated multiple

biobehavioral and information processing perspectives to advance understanding of how to best treat tobacco use in adults (e.g., Abrams et al. 1991; Niaura et al. 1988, 1991). Their integrative approach and arguments for a return to the basic sciences to improve smoking treatments were appealing and consistent with his thinking. Bill immersed himself in the multidisciplinary clinical research environment at Brown and expanded his research experiences and expertise to include studies of the biobehavioral mechanisms that regulate smoking in adults and clinical trials that evaluated novel cognitive-behavioral and pharmacological treatments for smoking cessation (e.g., Niaura et al. 1998, 1999, 2000).

As he neared the end of his postdoctoral training, he thought that he might continue the work of applying contemporary cognitive social learning models of personality toward enhancing an understanding of tobacco use in children and adults. He saw this as a critical need for the field and as a way to potentially improve psychologically oriented treatments for tobacco dependence in adults and prevention approaches with children and adolescents (which had all but stalled in creativity and innovation in the late 1980s and early 1990s). He thought that this pursuit might also benefit personality science in that those theoretical concepts and methods could be applied and tested on populations other than college students.

Contributions to Personality and Individual Differences

Social-Cognitive Self-Guides and Adult Smoking Cessation

Rates of smoking cessation for cognitive-behavioral treatments have remained relatively static for several years (Fiore et al. 2008; Piasecki et al. 2002). Advancing an understanding of the psychological mechanisms that regulate cessation has been recommended as a way to improve cognitive-behavioral treatments for smoking (see Abrams et al. 1991; Piasecki and Baker 2001; Shiffman 1993). This program of research was designed to fill this gap in the literature.

More specifically, this work was inspired by several lines of research in personality and social psychology. A long tradition of theory and research recognizes not only that goal-oriented behavior is partly regulated by mental representations of one's self in the future, or possible selves (Markus and Nurius 1986), but also that there exist alternative forms of self-representation that differ qualitatively from one another. The most basic distinction differentiates mental representations of one's personal aims from representations of personal norms to which one is morally or ethically obligated to adhere (see Cervone 2004). This distinction is represented with particular conceptual clarity in the research of Higgins and colleagues (reviewed in Higgins and Spiegel 2004). This work is grounded in a distinction between the ideal and the ought self, that is, a distinction that differentiates elements of knowledge that represents hoped for personal goals from knowledge that pertains to duties and obligations, respectively. Multiple studies have demonstrated that ideal and ought selves are distinctly associated with approach or avoidant behavioral responses (e.g., Higgins et al. 1994), different affective responses (e.g., Shah and Higgins 2001), and differing levels of feelings of competence (e.g., Elliot and Sheldon 1998).

This research proposed that all smokers have available two future-oriented self-schemas or self-guides (i.e., Markus and Nurius 1986) which regulate quitting-related behaviors and cognitions, in particular information processing, cognitive appraisals (e.g., self-efficacy), and different coping behaviors when they are accessible: an abstainer ideal-possible self and an abstainer ought-possible self (Shadel et al. 2000). As a nomothetic proposition, all smokers are expected to possess self-schemas organized around abstainer-ideal and abstainer-ought aspects of the self. The cognitive content and organization of these self-schemas, however, are expected to vary idiosyncratically and thus need to be assessed idiographically. Each self-schema incorporates knowledge of internal personality attributes, overt behavioral tendencies, and the situations in which the self-schemas are active (see Kihlstrom and Klein 1994). In accord with

this proposition, self-knowledge regarding personal attributes, behavioral tendencies, and activating situations is incorporated in the assessments of self-schemas that were employed.

The abstainer ideal-possible self represents knowledge of the ex-smoker that the smoker strives to become, the person with all of the hoped for attributes that will ideally describe them as ex-smokers. The abstainer ideal-possible self is focused on positive outcomes (i.e., being a nonsmoker) and, as such, regulates approach coping behaviors that allow the smoker to move toward the positive outcome of being a nonsmoker. This descriptive attribute-approach coping skills knowledge is linked to specific situations in which the smoker must execute approach coping strategies in order to not smoke.

The abstainer ought-possible self represents knowledge of the nonsmoking person that the smoker believes he or she should or ought to become, the person who has a normative or social obligation to quit smoking. The abstainer ought-possible self is focused on negative outcomes (i.e., remaining a smoker) and regulates avoidant coping behaviors that allow the smoker to move away from the negative outcome of remaining a smoker. In other words, the focus is on negative outcomes though the ultimate end state of not smoking is still the overarching goal. The descriptive attribute-avoidance coping skills knowledge is linked to situations in which the smoker needs to execute avoidance coping strategies to not smoke.

Studies established that adult smokers reliably distinguish between their abstainer ideal and abstainer ought selves by using different personality attributes to describe each one (Shadel et al. 2000, 2004a). In addition, smokers reliably linked approach coping strategies with attributes that described their abstainer ideal selves and avoidant coping strategies with attributes that describe their the abstainer ought selves (Shadel et al. 2000, 2004a). Smokers reliably linked this attribute coping skills knowledge to unique activating contexts (Shadel et al. 2000, 2004a). Additional evidence provided key experimental evidence that cognitive priming procedures (see Higgins 1996) distinctively activate each of these self-schemas, making each of them highly accessible for

regulating processing of coping information consistent with the accessible self-schema (Shadel et al. 2004a). When the abstainer ideal is activated via cognitive priming procedures, reaction time (a key index of processing speed; see Caprara and Cervone 2000) to approach coping information is faster compared to when other self-schemas are activated; similarly, when the abstainer ought is activated, reaction time to avoidant coping information is faster compared to when other self-schemas are activated.

The next phase of this research (Shadel and Cervone 2006) took these constructs and evaluated their status in causally affecting self-efficacy under varying conditions of high risk for smoking (i.e., exposure to standardized smoking cues that varied in terms of their capacity to provoke smoking; see Shadel et al. 2001a). The central rationale was that for this novel approach to assessing social-cognitive constructs to have clinical relevance for smokers, they must demonstrate causal force on constructs, like self-efficacy that have motivational relevance for helping smokers resist the temptation to smoke when provoked (Gwaltney et al. 2009). Cognitively priming and thus activating both the abstainer ideal and abstainer ought selves increased smokers' self-efficacy to quit compared to when a smoking related was activated under the same provocative cue conditions. These results provided the first evidence that self-efficacy to resist smoking in high risk for smoking situations is regulated by cognitive knowledge structures that are relevant for abstinence.

The Developing Self-Concept and Adolescents' Responses to Cigarette Advertising

The tobacco industry spends billions of dollars each year on advertising and marketing its products (FTC 2016), and exposure to cigarette advertising contributes to adolescent smoking (Wellman et al. 2006). Tobacco product branding through vivid, colorful, and memorable advertising imagery (e.g., the Marlboro Man) and slogans (e.g., Camel No. 9's "light and luscious" campaign) creates for potential adolescent consumers a "badge product," something that visibly

conveys messages about their identity, social standing, and affiliation with certain social groups (Scheffels 2008). The implicit message in these advertising images is that smoking will help them attain those characteristics (Krugman et al. 2005; Pollay 2007).

Although these ideas had existed informally in the tobacco literature for years, they had never received a formal conceptual or empirical treatment. Bill and his colleagues formalized these ideas in a conceptual article from 2001 (Shadel et al. 2001b). The basic premise is that adolescents' developing self-concept is a psychological construct through which cigarette advertising may exert an effect on adolescent smoking. The self-concept undergoes significant change from middle school through young adulthood (Harter 1999). Social-cognitive perspectives on self-concept development operationalize these changes in self-concept as conflicts among the various descriptive self-attributes that an individual adolescent uses to define him- or herself (i.e., "How can I be both shy and sociable?"). In general, conflicts are relatively fewer in number during early adolescence (e.g., middle school), increase during middle adolescence (high school), and decline in late adolescence (post-high school) and beyond (Harter 1999; Harter and Monsour 1992). Conflicts arise between self-attributes due to adolescents' increasing awareness that different self-attributes can be used to describe them and a lack of the cognitive facilities necessary to resolve the contradictions that may arise between opposing self-attributes (e.g., shy vs. sociable). Adolescents who possess a large number of self-conflicts and are not capable of resolving those conflicts (i.e., young adolescents due to their relative lack of cognitive maturity) look to external contexts, for example, to the positive images portrayed in cigarette advertising, to help them decide which attributes are most important and which one (s) they should adopt as part of their self-concept.

A series of three studies supported the hypothesis that adolescents who were having the most difficulty with self-concept development (i.e., high levels of self-conflict, reflecting difficulty with determining "who they are") would be most responsive to cigarette advertising (i.e., at risk of

being influenced). Younger adolescents (i.e., middle school aged) with a greater number of self-conflicts (more difficulty defining themselves) reported that cigarette advertising imagery was more important to them compared to young adolescents with lower numbers of self-conflicts and older adolescents (regardless of self-conflict) (Shadel et al. 2004b). Follow-up experimental research found that younger adolescents who exhibited a high number of self-conflicts and who also said that cigarette advertisements were more relevant to their self-concept had stronger intentions to smoke following exposure to cigarette advertisements compared to all other groups of adolescents (Shadel et al. 2008). And finally younger adolescents who exhibited high levels of self-conflict and also said that they identified more with the models used in cigarette advertisements had stronger smoking intentions following exposure to cigarette advertising compared to young adolescents with higher levels of self-conflict who did not identify with cigarette advertising models and young adolescents with low levels of self-conflict (regardless of level of model identification) (Shadel et al. 2009a). The results of these studies provided the first evidence that the developing self-concept coupled with level of advertising relevance moderates adolescents' smoking intentions following exposure to cigarette advertisements.

Cognitive Social Learning Theory and Adolescents' Responses to Movie Smoking

Exposure to cigarette smoking in movies is associated with increases in adolescent smoking (Wellman et al. 2006). Beyond linking amount of exposure to smoking in movies with adolescent smoking, it is important to investigate whether the way that smoking is portrayed in movies matters for influencing adolescent smoking. Movies commonly portray smoking as a way to serve particular motives (Worth et al. 2007), for example, that smoking helps to facilitate relaxation or social interaction, and managing negative affect and facilitating social interaction are motives that underlie adolescent smoking more generally (Wills et al. 1999). Cognitive social learning theory (Bandura 2006) suggests that adolescents

learn about these smoking motives from observing these movie portrayals. As such, portrayals of different smoking motives in movies may influence adolescent smoking in different ways. Two lab-based studies addressed this issue. A small correlational study (Shadel et al. 2010b) found that smoking that is portrayed in movies as facilitating relaxation – but not smoking that is portrayed as facilitating social interaction or a desire to appear rebellious – is more strongly related to adolescents' desire to smoke than smoking that is portrayed as serving no clear motive. A large experimental study (Shadel et al. 2012a) exposed never-smoking adolescents to 3 min worth of movie scenes in which characters smoked for one of three reasons (to relax, to socialize, or for no apparent reason) and measured future smoking risk as the outcome. Results revealed that movie smoking that was portrayed as serving a particular motive (either relaxation or social motives) increased future smoking risk compared to smoking portrayed as having no motive. The unique contribution from this set of studies is that motivated smoking in movies has a more potent effect on adolescent smoking risk compared to movie smoking with no motive. From a cognitive social learning perspective, these results suggest that adolescents develop beliefs about smoking (Wills et al. 1999) from viewing portrayals of motivated smoking in movies.

Modeling the Social-Cognitive Consequences of Exposure to Tobacco-Related Media

Social-cognitive and consumer decision-making theories (see Austin et al. 2006; Kardes 1994; Sargent et al. 2002) suggest that exposure to smoking-related media influences smoking behavior through a gradual process in which sequential exposures to pro-smoking media incrementally and dynamically change individuals' risk of smoking over time. Change in the level of smoking risk over time, reflected in the development of cognitions that favor smoking, is thought to eventually reach a threshold or "tipping point" after which initial smoking begins. Testing these conceptual postulates has required a different, more nuanced approach to assessment of tobacco advertising exposure than had been used in

previous studies and needed research designs that allow a careful temporal assessment of the process of how exposure to tobacco advertising unfolds to influence smoking behavior.

This research advanced the use of ecological momentary assessment (EMA; Shiffman 2009) to provide more detailed information on how pro-smoking media influences adolescent smoking and about mediating and moderating factors. College students carried handheld computers for 3 weeks to record both their exposures to pro-smoking media (broadly, exposure to traditional cigarette advertising in magazines and billboards and portrayals of smoking in movies and on television) and to respond to random prompts (three per day). They answered questions that assessed their future smoking risk following each media exposure event and random prompt; the random prompts served as a within-subjects control to which students' reactions to smoking-related media exposures could be compared.

Several key results have emerged from this study. Shadel et al. (2012b) conducted a within-subjects comparison to test the hypothesis that college students' smoking risk is more positive directly following exposure to pro-smoking media than at control moments. The results of a multilevel regression analysis confirmed this hypothesis: participants reported significantly higher smoking risk following exposure to pro-smoking media than they did at randomly sampled control moments. Setodji et al. (2013) evaluated the extent to which social context during exposure to pro-smoking media influences the extent to which those exposures influence smoking risk. In addition to answering questions that measured their future smoking risk after each exposure to pro-smoking media and after each random control prompt, participants also indicated whether they were with friends, with family, with a romantic partner, or alone (i.e., their social context). Results revealed that when participants were with friends, pro-smoking media exposures were associated with greater smoking risk; these associations were not present when participants were alone. Neither being with family members nor being with a romantic partner moderated the impact of pro-smoking media exposure on future smoking

risk. In another paper, Setodji et al. (2014) quantified, for the first time, the persistence of pro-smoking media exposure effects over time. In other words, this entry examined how long the effects of a single exposure to pro-smoking media lasts; the answer, according to these EMA data, was that smoking risk rises as a function of exposure to pro-smoking media and gradually returns to pre-exposure (baseline) levels over a period of 7 days. These results suggested that that exposures occur before the impact of prior exposures "wear off" could cause the risk of smoking to accumulate, thus increasing the chances that a young person will decide to smoke when presented with an opportunity to do so. A final paper (Shadel et al. 2013) evaluated whether exposures to pro-smoking media at retail point of sale or exposures to smoking in movies/television were more strongly associated with increases in smoking risk. Participants had elevated future smoking risk following exposure to pro-smoking media at point of sale; smoking risk at times of exposure to smoking in movies did not differ from risk measured during control prompts. This study makes a unique contribution to understanding how different pro-smoking media channels contribute to smoking risk and suggests that there is merit to examining the relative contribution of individual media channels on behavior.

Applying a Social-Cognitive Perspective to Tobacco Regulatory Science

Over the past several years, the tobacco industry has shifted its advertising dollars away from traditional outlets (e.g., magazines, billboards) to retail point-of-sale (POS) locations (FTC 2016). Exposure to POS tobacco advertising contributes to risk of smoking initiation in adolescents and young adult never-users and triggers smoking in adult smokers (Robertson et al. 2015). It is not surprising, then, that a key focus of the Family Smoking Prevention and Tobacco Control Act of 2009 is regulation of tobacco advertising and marketing at POS (<http://www.fda.gov/TobaccoProducts/default.htm>). Regulatory options may include reducing the number or size of tobacco posters allowed or moving tobacco displays so that they are less visible and accessible.

Unfortunately, there is almost no empirical information available to support specific regulatory actions at POS to reduce its potency in triggering smoking. Stronger evidence is needed to demonstrate the effects of regulatory options so that each might withstand legal challenge by the tobacco industry and be implemented at POS.

This program of research utilizes the RAND StoreLab (RSL), a life-sized replica of a convenience store that was developed to experimentally evaluate how changing aspects of tobacco advertising at POS influences tobacco use cognitions, risk, and behavior during simulated shopping experiences. It permits manipulation of potentially policy-actionable advertising ingredients of the POS retail environment in a highly controlled but externally and ecologically valid way. Marketing research frequently uses such prototype stores to test how different features of the retail environment influence consumer decisions in an ecologically valid context (see Baker et al. 1992).

A recently published study using the RSL examined whether changing the placement or visibility of the tobacco power wall (large displays of tobacco products at POS, typically located behind the cashier) had any effect on cigarette smoking risk among adolescents (Shadel et al. 2016). Such power wall displays capitalize on two key features of effective sales and promotion (Nan and Faber 2004; Petty and Cacioppo 1986): placing tobacco power walls strategically behind the cash register increases salience of positive tobacco messages and increases the likelihood of repeat exposures to those positive messages. Most commonly, such exposures are thought to result in a false consensus effect, that is, normalizing tobacco use to make it seem more common (Marks and Miller 1987) with changes in perceived norms, in turn, increasing tobacco use risk and behavior. As such, moving or hiding the tobacco power wall would thus have its effects conceptually by disrupting the salience of tobacco products, making tobacco use seem less normative. A randomized, between-subjects experimental design with three conditions that varied the location or visibility of the tobacco power wall within the RSL was used. The conditions were cashier (the power wall was located in its typical position behind the cash

register), sidewall (the power wall was located on a sidewall away from the cash register), or hidden (the power wall was located behind the cashier but was hidden behind an opaque wall). Results from this study revealed that hiding the tobacco power wall significantly reduced adolescents' susceptibility to future cigarette smoking compared to leaving it exposed (i.e., the cashier condition), but locating the tobacco power wall on a sidewall away from the cashier had no effect on future cigarette smoking susceptibility compared to the cashier condition. Additional analyses revealed that this effect is partially mediated by adolescents' perceptions of the numbers of same-aged peers who smoke (Setodji et al. [in press](#)). In other words, hiding the tobacco power wall decreases adolescents' smoking risk, and this effect is partly explained by the effect of the power wall on teens' perceptions of how normative smoking is.

Concluding Thoughts

Bill spent most of his career (so far) applying methods, theories, and approaches from outside of tobacco research as a way to improve understanding of this persistently vexing and pressing public health problem. While the contribution of any single paper or study may be incremental, he hopes that the overall perspective that has informed the body of his work – that of integration across psychological disciplines – will be of some greater value to the field

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Shadow

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Synonyms

Devil; Evil; Shroud; Veil

Definition

Jung used the word “shadow” to describe that part of the psyche which is inseparately connected to an individual but is disconnected from conscious awareness and which is composed of all that a person disavows, all that they find repugnant and disagreeable, and all that they wished others (including themselves) could not see because it runs counter to their ego ideal.

Introduction

While the shadow in Jung's conception is underpinned by an archetype, its content is primarily derived from a person's individuality in terms of their inherited inferior function of consciousness as well as their personal life experience to do with those aspects of their constitution which they repress. Nonetheless, the shadow not only contains much energy that can be useful to the psyche, but it can also be the conduit to the deeper layers of the collective unconscious on which a person's individuation will depend.

Shadow Development

From a developmental perspective, the personal shadow becomes configured at the same time and rate that a child's ego consciousness develops. In terms of the latter, a child and young person in dealing with the outer world and life as it unfolds

will understandably utilize their emerging dominant function of consciousness (thinking or feeling or sensation or intuition). However, an individual's inferior function is opposite to their preferred dominant function and is less understood, operates more primitively, and so tends to be ignored, rejected, and even repressed out of conscious awareness so that it drops into the unconscious and becomes "contaminated" with the "slime" of the "deep" as Jung (1931/2015: 84) puts it. In this way the inferior function of consciousness drops into the unconscious and becomes a significant component of the personal shadow. Alongside this process and because socialization proscribes for children what behaviors and thoughts are acceptable, any opposite tendencies in their psyches will be rejected, seen as not belonging to them, and thus pushed aside and repressed into the shadow. In this way shadow development coincides with, and counterbalances, the development of the persona (which is made up of all the agreeable aspects of an individual's personality that facilitates their adaptation to the outer world). Because the shadow is primarily composed of material derived from an individual's subjective experience, in this way it resides as a psychic structure in the upper layers of the unconscious.

Shadow as Archetype and Its Energy

Jung also understood the shadow to be an archetype and thus to entail a collective component so that personal shadow development will be underpinned by archetypal energies from the collective unconscious. Since this collective archetypal shadow represents the universal human propensity for evil, Jung believed humanity had to take the reality of evil very seriously. This view would be supported by contemporary social psychologists like Philip Zimbardo (2007) who see the capacity for good and evil as residing in all persons, but the situation or context in which they find themselves will determine the expression of either potentiality. Since the personal shadow is underpinned by an archetype in this way, it cannot be eliminated, "argued out of existence or rationalized into harmlessness" (Jung 1954/1990: 20), but must be acknowledged and corrected and its energies incorporated in a positive way into

consciousness awareness. Consequently, Jung spoke of confronting the shadow as an essential start point to the individuation process (i.e., becoming an individual in one's own right) because the shadow is more than just unrelenting perversity. As he says, "Everyone carries a shadow, and the less it is embodied in the individual's conscious life, the blacker and denser it is" (Jung 1940/1991: 76). Furthermore, "If the repressed tendencies, the shadow as I call them, were obviously evil, there would be no problem whatever. But the shadow is merely somewhat inferior, primitive, unadapted, and awkward; not wholly bad. It even contains childish or primitive qualities which would in a way vitalize and embellish human existence, but – convention forbids!" (Jung 1940/1991: 78). As such, the shadow contains a lot of potentially useful psychic energy and as Jung says elsewhere, "[Psychic] Energy in itself is neither good nor bad, neither useful nor harmful, but neutral, since everything depends on the *form* into which energy passes" (Jung 1943/1990: 47). Consequently, when shadow material can be brought to consciousness, there is the possibility that its energies can be drawn away from its repressed and misplaced expressions. In this way the unsatisfactory and inferior constituents of the personality adhering to the shadow can be accessed for incorporation into the psyche's development through the moral choices thus enabled. What unfolds is the capacity to take a more objective stance in relation to one's own psychic content, and this can lead to shadow energies being channeled into useful work. A sociocultural historic example of this would be the British Labour movement of the nineteenth and twentieth centuries where "focused rage" at the injustice and exploitation of workers was channeled into parliamentary action leading to significant reforms. Significantly, Jung argued that out of confrontation with the shadow "a man knows that whatever is wrong in the world is in himself, and if he only learns to deal with his own shadow he has done something real for the world" (Jung 1940/1991: 83).

Confronting the Shadow and Individuation

It needs to be remembered that Jung did use the word "confrontation" in relation to accessing the

shadow which indicates that encountering it can be quite painful. As Jung says, “This confrontation is the first test of courage on the inner way, a test sufficient to frighten off most people . . . But if we are able to see our own shadow and can bear knowing about it, then a small part of the problem has already been solved: we have at least brought up the personal unconscious” (Jung 1954/1990: 20). Indeed, “every step forward along the path of individuation is achieved only at the cost of suffering” Jung said (Jung 1954/1991: 272). This explains why clinicians have found that the emergence of shadow material in the early stages of psychotherapy can prevent persons continuing in the process. Such individuals in beginning to see the less agreeable aspects to their psyches become aware of that which their individuation requires of them, and this becomes too aversive. Furthermore, those individuals who overly identify themselves with their own persona to the exclusion of acknowledging their shadow components run the risk of psychic sterility because they are not accessing the psychic energy which the shadow contains and are remaining disconnected from the more robust energies imbedded in the deeper archetypes of the collective unconscious. Jung had come to realize that it was only through confronting the shadow that the personal unconscious could be engaged and this led to the possibility that the lower layers of the psyche could be penetrated, in particular the contra-sexual archetypes of the anima/animus and the self-archetype upon which further individuation depended (Jung 1951/1989; 1968/1989).

Accessing the Shadow

There are three main ways that an individual can access their shadow material. Firstly, through dream images of threatening characters or handicapped and marginal people all of whom represent something about the individual which has been excluded from consciousness. Jung did maintain that shadow figures in dreams will invariably be of the same sex as the individual. Given that Jung saw projection to be the natural way that the psyche functions (as opposed to it being a Freudian mechanism of ego defense only), the second way to detect shadow material is

through its projection onto other people (Jung 1968/1989). Those whom an individual intensely hates or who enrages them can be pointing to qualities within that individual that are disavowed and have been split off from consciousness so that they get projected onto others (even if the objective other actually has the qualities that the individual disavows). Finally, a person’s primitive and infantile emotional reactions to situations reveal shadow material, for when an individual is frivolous, narrow-minded, shallow, base, cheap, inconsiderate, measly, and deceitful (to name a few), their unacceptable shadow qualities can be clearly seen by themselves and others. The post-Jungian Robert Johnson (1993) has devoted a book to explicating a contemporary understanding of the shadow for modern persons.

Conclusion

For the purposes of individuation, Jung believed a person must “confront” and be confronted by their shadow so that its content can be integrated into consciousness. The shadow cannot be eradicated because its formation is underpinned by an archetype and the archetypal component means that confronting it can lead to a penetration of the deeper layers of the collective unconscious through which the psyche can be vitalized.

Cross-References

- ▶ [Analytical Theory \(Jung\)](#)
- ▶ [Anima/Animus](#)
- ▶ [Archetypes](#)
- ▶ [Collective Unconscious](#)
- ▶ [Persona \(Jung\)](#)
- ▶ [Personal Unconscious](#)

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Sheldon, Kennon M.

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Early Life and Educational Background

Kennon Sheldon was born on August 17, 1959 in Williamsburg, Virginia, USA. He completed his Bachelor of Science degree in 1981 at Duke University, focusing on cognitive psychology. Between 1981 and 1986, he worked in group homes, tried to start an original rock and roll band, and spent a year in the existential-phenomenological psychotherapy program at Seattle University. He then enrolled in the Ph.D. program in Social-Personality psychology at UC Davis, where he worked with Dean Simonton, Thomas Natsoulas, Karen Erikson, Charles Tart, and Robert Emmons. He completed his Ph.D. in 1992 with Dr. Emmons, via a study of personal strivings, intrapsychic conflict, and faculty-rated creativity in graduate students in the arts and sciences. He found that more creative students

had no more or less striving conflict than less creative students; however, they reported greater confidence in their ability to handle striving conflict (Sheldon 1995). This research also found intriguing personality differences between artists and scientists, which were interpreted in terms of arousal regulation theory (Sheldon 1995). Artists apparently tolerate or seek out negative affect in their personal lives, in part because they crave affective intensity.

Professional Career

Kennon Sheldon was on an NIMH post-doc from 1992 to 1994 at the University of Rochester, where he became familiar with Deci and Ryan's Self Determination theory. He remained at Rochester for four more years, as a Research Assistant Professor. In 1997, he joined the Social-Personality program at the University of Missouri as an Assistant Professor, receiving tenure in 2003 and a Full Professorship in 2007. He has authored or co-authored over 200 peer-reviewed articles, more than 40 book chapters, and 6 books, with (as of this writing) an H index of 83. Sheldon's publications have appeared in journals such as *Journal of Personality and Social Psychology*, *Personality and Social Psychology Bulletin*, *Psychological Review*, *American Psychologist*, and *Psychological Science*.

Research Interests

Dr. Sheldon's research interests include personality, motivation, goals, well-being, and positive psychology. In research with Sonja Lyubomirsky, he has shown that it is possible to sustainably improve one's happiness levels, so that one does not always regress back to one's "genetic set-point." Research with Andrew Elliott and Tim Kasser introduced the concept of "self-concordance," involving matching or fit between conscious goals and deeper, growth-oriented aspects within the personality. Research with Richard Ryan examined cross-situational and cross-role variation in the Big Five traits, as a

function of psychological need satisfaction. Sheldon's best known book is *Optimal Human Being: An integrated multilevel perspective*, which presents a hierarchical framework for understanding the causation of human behavior while summarizing which factors at which levels are reliably associated with happiness and thriving. However, he was also the lead editor (with Todd Kashdan and Michael Steger) of *Designing positive psychology: Taking stock and moving forward* (2011), and *Stability of happiness: Theories and evidence on whether happiness can change* (2014; with Richard Lucas).

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James A. Shepperd is the R. David Thomas Endowed Chair of Psychology at the University of Florida, in Gainesville, Florida. The endowed chair is funded by the founder of Wendy's restaurant at the request of his daughter, Wendy, who was a psychology major at the university. Sadly, the endowment does not include an unlimited Wendy's French fries or hamburgers. Shepperd's research falls at the intersections of social, personality, and health psychology and includes topics such as motivation and productivity in groups, self-handicapping, unrealistic optimism, bracing for bad news, and information avoidance. The bulk of his research explores how people think about, prepare for, and respond to threatening information.

Early Life and Education Background

In 1961, in Burnet Texas, Shepperd emerged after 9 months of incubation from womb he shared with his twin brother. After 18 years marked by successful accomplishments such as walking, riding a

bicycle, and combining words into sentences, he was granted admission to Southwestern University in Georgetown, Texas, where he graduated in 1983 with a BA in psychology. He received an MA in educational psychology from the University of Texas under the mentoring of Toni Falbo and Mark Leary and a PhD in social psychology from the University of Missouri in 1988 under the mentorship of Robert M. Arkin.

Professional Career

Shepperd was an assistant professor at the College of Holy Cross in Worcester Massachusetts from 1988 to 1992 and then accepted a position at the University of Florida where he remains today. He also has held visiting positions at Texas A&M University (1990–1991); Katholieke Universiteit, Leuven, Belgium (2004); Université Paris X, Paris, France (2006); Université de Savoie, Chambéry, France (2007); and the National Cancer Institute in Washington, DC (2010). He has authored more than 100 publications in his career in outlets such as *Psychological Bulletin*, *Journal of Personality and Social Psychology*, *Health Psychology*, *Personality and Social Psychology Bulletin*, *Review of General Psychology*, *Psychological Science*, *Perspectives in Psychological Science*, *Emotion*, *Annals of Behavioral Medicine*, *Review of Personality and Social Psychology*, and *Current Directions in Psychological Science*.

Shepperd is a fellow in the Society of Experimental Social Psychology and the Society for Personality and Social Psychology. He also has received a Fulbright Fellowship and numerous teaching, research, and mentoring awards from the University of Florida. He also received the Phi Beta Kappa Alumni Award from Southwestern University and Edwin B. Newman Award for research award from the American Psychological Association. He was the Colonel Allan R. and Margaret G. Crow Term Professor at the University of Florida in 2011.

Shepperd's research has received research funding from the National Science Foundation, the National Institute for Health, the National Cancer Institute, and the Templeton Foundation.

He served as associate editor for *Personality and Social Psychology Bulletin* and is on the editorial board of way too many journals. He serves or has served as the director of graduate studies in social psychology at the University of Florida and the director for research at the Southeast Center for Research on Disparities in Oral Health. He also makes wickedly tasty lemon bars.

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Shiner, Rebecca

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Rebecca Shiner is a professor of Psychology at Colgate University. She is a clinical psychologist, and her research spans clinical, personality, and developmental psychology, with a primary focus on personality development in the first two decades of life.

Early Life and Educational Background

Shiner was born on July 27, 1968, in Johnstown, PA, and grew up primarily in Bethlehem, PA. After reading a children's book on Freud for her seventh grade term paper, she promptly decided that she was going to become a psychologist. She attended Haverford College in Haverford, PA. During her first year in college, she saw the film *28 Up*, an installment of a film series that has followed up a set of 14 British people every 7 years starting at age 7; she was riveted by seeing these people's lives unfold and became deeply curious about how people's personalities are maintained and change over time. After obtaining her B.A. in Psychology in 1990, she worked for 2 years with chronically mentally ill adults, first as a case manager and second as a research assistant. This work inspired her to want to better understand the life paths leading to wellness and psychological disorders. Shiner entered the Ph.D. program in psychology at the University of Minnesota and worked with two advisors – Auke Tellegen (a personality psychologist) and Ann Masten (a developmental and clinical psychologist) – and was delighted to find that she could empirically pursue her longstanding interest in personality development in childhood and adolescence. During graduate school, she discovered that she loved teaching and wanted that to be a significant component of her career. She completed her dissertation using data from Project

Competence, a longitudinal study exploring the development of positive outcomes among youth exposed to significant adversity. After obtaining her Ph.D. in 1998 (Major, Clinical Psychology; Minor, Child Development), she completed an internship in clinical child psychology at the University of Rochester.

Professional Career

Shiner has taught at Colgate University since 1999 and has served as Chair of Psychology for her department. She has continued to pursue research in personality development and has published papers in *Journal of Personality and Social Psychology*, *Journal of Personality*, *Journal of Research in Personality*, *Personality and Social Psychological Science*, *Development and Psychopathology*, *Journal of Personality Disorders*, *Annual Review of Psychology*, and *Psychological Bulletin*. She co-edited the *Handbook of Temperament* in 2012 and is currently co-editing the *Handbook of Personality Development*. She has served as an Associate Editor of *Journal of Personality and Social Psychology* and *Journal of Personality* and has served on the editorial boards of numerous journals in personality and clinical psychology. She was a consultant to the workgroup on *Personality and Personality Disorders* for *DSM-5* and serves as the Executive Officer of the Association for Research in Personality. She was included in *Princeton Review's Best 300 Professors* and teaches courses at Colgate on introductory psychology, personality, happiness, therapy, and the development of psychological disorders in youth.

Research Interests

Shiner's central research interest remains personality development from childhood through adulthood. She is particularly interested in these questions about personality development: What is the structure of individual differences in childhood, and how does it change over time? To what extent do temperament and personality stay the

same versus change over time? What processes (both contextual and internal) contribute to changes in personality? How do personality differences predict life outcomes, resilience, and the development of psychopathology? She also has strong interests in personality disorders and the development, manifestations, and outcomes of personality pathology in youth. In addition to her work on normal and abnormal personality development, she has secondary interests in two other areas. First, she has done work on mood regulation and the psychological processes underlying internalizing disorders, especially depression and anxiety (e.g., the role of intolerance of uncertainty). Second, she is broadly interested in how various adult personality traits shape day-to-day functioning and life outcomes.

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Shock

- ▶ [Surprise](#)

Short-Scale EPQ-R

- ▶ [Extraversion-Introversion \(Eysenck's Theory\)](#)
- ▶ [Neuroticism \(Eysenck's Theory\)](#)
- ▶ [Psychoticism \(Eysenck's Theory\)](#)

Short-Term Mating

- ▶ [Sexual Promiscuity](#)

Short-Term Psychodynamic Therapy

- ▶ [Rank, Otto](#)

Shoulds (Horney)

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Introduction

Karen Horney's theory of psychological development provides a rich conceptual framework for understanding psychopathology, and, while often unacknowledged, her influence can be recognized in contemporary thought. In a time when the psychoanalytic landscape was dominated by the classical perspective, Horney reformulated the tenets of Freudian theory. Rather than centering on instinctual drives and sexuality, her theories

emphasize the formation of self, the significant impact of relationships, and of cultural factors (Horney 1945). Some of Horney's work could be regarded as an early precursor to what is now called relational theory.

Horney argued that psychopathology is best understood as the result of underlying character disturbances, rigid patterns of relatedness, and conflicts between the *real self* and *idealized self*. In her view, the neurotic individual is often pre-occupied with the idealized self-image, measuring herself against an unattainable standard of perfection. In her futile efforts to live up to her idealized self, she comes to be tormented by a set of harsh inner dictates, unyielding demands of all the things she *should* be. Horney referred to the effects of these inner dictates as the "*Tyranny of the Should*." The Tyranny of the Should alienates the individual from her *real self* and disrupts the constructive process of *self-realization* (Horney 1950).

The Real Self and the Idealized Self

Horney argued that all individuals strive toward self-realization. By this, she meant that we all have a constructive desire to become our authentic selves, actualize our intrinsic potentialities, and attain a sense of meaning and fulfillment. She writes that an individual will spontaneously seek to develop her unique capacities and develop substantive and authentic connections with others. Given a warm and accepting environment, the developing child will strive toward self-realization and live in accordance with her real self. She will also develop an idealized self-image, which will serve as a goal and a guiding force in the process of self-realization. However, she will understand and accept that she can never be her idealized self or meet its standards. The experience of being one's real self is marked by spontaneity, authenticity, and fulfillment and includes an acknowledgement of one's personal flaws (Horney 1937, 1950).

If however the child encounters an unfavorable environment, in which caregivers are intrusive,

unresponsive, or abusive, this constructive process of growth may be interrupted and the child may develop a neurotic personality structure. Caregivers who are too consumed by their own neurotic needs may be unable to provide a safe, warm, and caring environment for the developing child. The child may then experience a state of profound unease, anxiety, and fear. Horney referred to this frightening state as *basic anxiety*, a feeling of helplessness and isolation in a potentially hostile world. Consumed by basic anxiety, the individual develops an urgent need to elevate herself in order to attain a feeling of confidence, security, and internal coherence. Rather than living in accordance with her intrinsic needs and potentialities, she comes to be dominated by an idealized self-image. She believes she should be, for example, powerful, wise, beautiful, and loved by all. The idealized self is absolute and unattainable, but is meant to provide her with a much-needed sense of meaning and security. Instead of striving toward self-realization, the neurotic individual works tirelessly to live up to this idealized image. However, in her futile attempts to live up to the idealized self, the neurotic individual is continually alienated from her authentic feelings and is cut off from her real self, which she despises for its imperfections (Horney 1950).

The Tyranny of the Should

In order to ward off basic anxiety, the neurotic individual will work tirelessly to become her idealized self. She will attempt to mold herself into an image of perfection, holding herself to an absolute and unyielding standard of greatness. She will unconsciously say to herself, “Forget about the disgraceful creature you actually *are*; this is how you *should* be; and to be this idealized self is all that matters” (Horney 1950, p. 64). Yet the nature of the idealized self is such that it can never truly be attained – the individual will inevitably find that she falls short in some way. As a result of this inevitable failure, the individual comes to be dominated by a series of harsh inner dictates, internal

reminders of everything she should be and is not. The individual may come to believe, for instance, that she should always be kind and should never take offense, become angry, or argue with others. She should always exhibit the highest order of intelligence, success, and discipline. Others may struggle to overcome difficult experiences, but *she* should always be a model of strength and resilience.

Horney writes that “the inner dictates comprise all that the neurotic should be able to do, to be, to feel, to know – and taboos on how and what he should not be” (Horney 1950, p. 65). The “shoulds” are absolute and rigid and represent an impossible standard of perfection. Because of their punitive and unyielding nature, the “shoulds” exert a coercive power over the neurotic individual, who must work tirelessly to meet the demands of the inner dictates. The individual will engage in futile attempts to become her idealized self but will inevitably fail. Perceived failures to actualize the demands of the “shoulds” are met with harsh retribution and “violent emotional reactions,” including profound anxiety, self-condemnation, and despair. These reactions will often appear to others as wildly out of proportion with the actual situation. Moreover, individuals caught between contradictory “shoulds” are likely to experience intense conflict and anxiety. For instance, as a woman finds that it is impossible to meet the conflicting demands that she be both the perfect mother and the perfect employee, *always* being available to her children and to her employer, she can experience profound feelings of unease and panic (Horney 1950).

The Tyranny of the Should applies not only to present circumstances but also to past experiences. Neurotic individuals may often view past experiences and hardships through the lens of their inner dictates, berating themselves for past failures and perceived shortcomings. For instance, an adult patient may acknowledge that her childhood was characterized by trauma and emotional abuse, while still maintaining a feeling that she should have triumphed over these circumstances and emerged from her chaotic household unaffected. Similarly, an individual may believe that

she should have been a better student or a better daughter. It is not sufficient to have done one's best; she should have done better.

Horney notes that the "shoulds" are quite different from genuine moral ideals and are more expansive in their demands than Freud's concept of the superego. Though they are often concerned with issues of morality, the "shoulds" also apply to other realms of experience and activity, for instance, in one's belief that she should excel at any activity she takes up with little or no practice. Moreover, the "shoulds" may often take on a negative quality, devoid of moral pretense. Instead of believing that she must always be good, kind, and generous, an individual may come to feel that she should be the best liar and cheater or "should be able to get away with anything" (Horney 1950, p. 73).

Horney writes that there are "great individual differences in the attitudes toward this tyranny and the ways of experiencing it" (Horney 1950, p. 75). Specifically, Horney argues that one's attitude toward the "shoulds" will vary based on whether they place the greatest value on mastery, love, or freedom. Horney referred to those individuals who most value mastery of life as the *expansive type*. The *expansive type* values success, strength, and seeking triumph over others. They may often attain a feeling of mastery by seeking out external acclaim and adulation. The expansive type will try in various ways to live up to the "shoulds" and to fulfill the demands of the inner dictates. In their attempts to actualize the "shoulds," they form a powerful identification with the ideal self. The expansive individual may come to believe that she truly *is* the perfect mother, perfect student, or whatever it is that she most desires to be. Often the arrogance of the expansive individual, as well as her rigid standards of perfection, makes it difficult for her to form substantive connections with others.

The *self-effacing type* values love over freedom and mastery. They seek out nurturance and affection from others, and their "shoulds" may often be characterized by impossible standards of kindness or generosity. The self-effacing individual may believe that she can only attain the nurturance and love she desires by exhibiting the qualities of her idealized self. However, they will

always be painfully aware of their shortcomings as they inevitably fail in their efforts to meet their internal standards of perfection. Horrified by their perceived failure to do what is necessary to secure the love and affection they need, the self-effacing individual often struggles with painful feelings of guilt and self-criticism.

Horney also described a *resigned type* of neurotic individual, who values freedom above all else. Of the three types described, the resigned type is the most likely to rebel against the demands of the "shoulds." These individuals are deeply resentful of the inner dictates, believing that any expectation placed upon them impinges on their highly valued state of freedom. Any perceived demands on the self – whether internal or external – will be experienced as coercive and will lead to feelings of anger and resentment. At times, the resigned individual may rebel against the "shoulds" in an open and violent manner. Sensing that she cannot fulfill standards of ultimate goodness, she may decide that she will be "thoroughly bad" instead (Horney 1950, p. 77). Horney also writes that individuals may oscillate between poles of compliance and rebellion and may exhibit signs of multiple types.

Regardless of whether one exhibits a predominantly expansive, self-effacing, or resigned presentation, the neurotic individual's "shoulds" undermine the individual's capacity to engage in healthy and reciprocal relationships with others. This is in part due to the fact that the individual is likely to externalize the "shoulds" to some degree. Persons, for instance, may apply their impossible standards of greatness to others. They will not only expect perfection in themselves but will demand perfection from family members, friends, and coworkers. Others' inevitable failure to actualize these standards will arouse feelings of anger and disdain. Alternatively, one may feel that the demands themselves are coming from outside rather than from within. They may believe that it is other people who demand their perfection and resent others for their unreasonable expectations. The greater the rigidity of the inner dictates, the more they exert a coercive power over the individual and limit their capacity for healthy and authentic engagement with others.

Conclusion

The most harmful and pernicious effect of the Tyranny of the Should is that individuals are alienated from their authentic experience and thwarted in their efforts to achieve self-realization. When an individual is constantly concerned with who they *should* be, they are estranged from who they *actually are*. Authentic feelings, wishes, and strivings become secondary to individuals' attempts to live up to their idealized selves. Individuals may believe that they should be generous, but will not authentically feel like giving to others, deriving little genuine satisfaction and fulfillment from acts of generosity. They may express to others what they think they should feel, while lacking true emotional engagement and authenticity. Only through understanding the nature and function of their inner dictates can individuals escape from the Tyranny of the Should and resume their constructive striving toward self-realization.

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Showers, Carolin J.

Carolin Showers
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Carolin Showers is Professor of Psychology at the University of Oklahoma – Norman. She is a social-personality psychologist who conducts research on the structure of the self-concept; optimism, pessimism, and depression; coping strategies and self-esteem; emotion; and ethical behavior.

Early Life and Educational Background

Showers was born in Philadelphia, PA. She attended public high school in suburban Philadelphia, where her favorite subjects were math and creative writing; her extracurricular interests were music and art history; and her athletic interests were ice hockey and bicycling. Pursuing a passion for the natural environment, she earned a B.S.E. degree in Civil and Geological Engineering from Princeton University and an M.S. in Civil Engineering from University of California, Berkeley, both with a focus on groundwater modeling. After working for a major oil company as an environmental policy analyst, she decided the important questions related to environmental policy were psychological ones and returned to graduate school, receiving her Ph.D. in Social Psychology from the University of Michigan in 1986 under the direction of Nancy Cantor.

Professional Career

Showers taught at Barnard College from 1986 to 1989, then moved to the University of Wisconsin where she was supported by a postdoctoral National Research Service Award from NIH to study clinical psychology research under the supervision of Lyn Abramson. She held a faculty position at University of Wisconsin from 1994 to 1998 and moved to the University of Oklahoma in 1999. She has authored over 25 empirical articles in outlets such as *Journal of Personality and Social Psychology*, *Personality and Social Psychology Bulletin*, and *Journal of Personality* and numerous book chapters and book reviews. She has served as associate editor for *Self and Identity*, *Personality and Social Psychology Bulletin*, and *Social Psychological and Personality Science*.

Academic Background

Although Showers entered the graduate program at the University of Michigan with minimal background in psychology, it was impossible not to be immediately caught up in the changing face of

personality and social psychology at that time. For Showers, the main themes had to do with shifting perspectives on the self from an emphasis on trait-like characteristics such as self-esteem to underlying cognitive processes, exemplified by Cantor's work on a cognitive strategies approach to personality and Markus's work on self-schemas and self-organization. An even broader trend was the shift in social psychology from a strict social cognitive perspective to one that gave equal weight to affective and motivational components. Cantor and Kihlstrom showed both how an understanding of cognitive organization could revolutionize the fields of social and personality psychology, as well as how that perspective naturally led to the incorporation of affective and motivational elements that the strict social cognitive approach ignored. Zajonc's groundbreaking work on the primacy of affect was inspirational. Nisbett's focus on heuristics and bias in judgment opened the doors for the motivational perspective. On the personality side, there was a commitment to Mischel's cognitive perspective on personality, which carved the nature of personality at the joints of dynamic goals and strategies, rather than static behavioral traits (Showers and Cantor 1985).

Other important influences from the intellectual community at the University of Michigan came from Fiske (affect and categorization), Higgins (construct accessibility), Isen (positive mood), and Steele (self-affirmation) and an amazing cohort of social psychologists in training, including Bargh, Biernat, Crandall, Cross, Jussim, Kitayama, Krosnick, Kunda, Niedenthal, and Pietromonaco.

Research Contributions

Defensive Pessimism. This line of research, developed collaboratively with Cantor and Norem, counters the traditional view that high or low expectations become self-fulfilling prophecies. An initial insight was that people sometimes use pessimistic expectations to motivate themselves to work harder. This research shifted the theoretical perspective on optimism and pessimism away from a traditional social cognitive perspective to

one that highlighted motivational factors. Showers's methodology focused on optimism and pessimism in the domain of social interactions, showing that people who self-identified as pessimists actually experienced better outcomes in a get-acquainted conversation with a stranger if they imagined what could go wrong in that situation ahead of time (Showers 1992a).

How and Why Thinking. In trying to understand better how defensive pessimists (i.e., pessimists who seemed to be highly motivated by their low expectations) avoid a downward spiral of negative thinking and depression, Showers reasoned that their pessimistic scenarios were very concrete and specific, rather than broad or global. Therefore, a negative scenario could initiate thoughts and plans for how to avoid the imagined negative outcomes, in contrast to more abstract thinking that offered no obvious avenue for intervention. In order to create these alternative styles of thinking in the lab, Showers asked her participants to write either about how an imagined negative event would happen, or why. Individuals who engaged in how thinking were more likely to present unstable causes and to take responsibility for the outcome than those in the why thinking condition, consistent with the defensive pessimists' strategy of increased effort and perceived control (Showers 1988).

Compartmentalization: Basic Model. Inspired by Beck's image of the "downward spiral of negative thinking" that leads to depression, Showers continued to try to understand how some individuals could use a pessimistic perspective to their advantage without falling prey to depressive episodes. Building on the themes of cognitive organization and knowledge structures developed by her mentors and focusing on the case of self-knowledge, Showers reasoned that the associative networks of depressed persons more likely consisted of tightly interconnected items of negative knowledge, whereas defensive pessimists might be better able to link negative self-beliefs to more positive ones. In other words, there might be important individual differences in the tendency to use valence as a basis for the categorization of self-knowledge. Combining Linville's representation of self-knowledge via a

card-sorting task with measures of category structure from the cognitive literature (Puff 1970) and applying recent findings on self-concept content (Dykman et al. 1989), Showers developed the self-descriptive card sorting task measure of evaluative compartmentalization and integration. Informal discussions with Abramson, Fazio, Holmes, and Tice were critical in developing the basic theoretical model that has been tested and replicated in over 20 studies (Showers 1992b).

Compartmentalization: Hidden Vulnerabilities. A longitudinal study of self-structure and vulnerability to depression showed that while evaluative self-organization showed good stability over a 1–2-year period, the perceived importance of positive and negative self-aspects was unstable. Graduate student Zeigler-Hill reasoned that this would create unstable moods in individuals with compartmentalized self-structures, who would vacillate between feeling good and feeling bad, depending on whether their positive or negative compartments were salient. He confirmed this empirically, collecting data on self-reported mood both in response to either a laboratory manipulation of ostracism or everyday events. Thus, positively compartmentalized individuals feel extremely good as long as they experience generally positive outcomes, but they are vulnerable to extreme negative moods when their negative compartments are activated by negative events. Interestingly, compartmentalized individuals are slower than are integratives to respond to self-esteem items, suggesting that they have difficulty resolving positive and negative self-beliefs into a single global self-evaluation. They also report feeling less authentic within their self-aspects, suggesting that the compartmentalized structure is not completely realistic (Zeigler-Hill and Showers 2007; Showers et al. 2015).

Compartmentalization: Disordered Populations. Studies of college students with and without symptoms of disordered eating revealed that those without symptoms showed flexibility in the evaluative organization of self. In a neutral context, their self-descriptive card sorts tended to be compartmentalized. However, when asked to think about their most negative characteristic, their thoughts had an integrative structure, revealing

that they linked negative thoughts about that attribute of themselves to something more positive. A study of college students who reported emotional or sexual maltreatment before age 15 found that only those who had experienced both high sexual and high emotional maltreatment events displayed the integrative structures that might help them cope with salient negative self-beliefs. Individuals who experienced only sexual maltreatment tended to have compartmentalized self-structures, and this type of organization was associated with lower levels of psychological defenses and distress. These studies suggest the conclusion that compartmentalization is generally effective as a coping strategy, being associated with positive mood and high self-esteem as long as compartmentalization succeeds in minimizing access to negative self-beliefs. When compartmentalization fails and negative self-knowledge cannot be avoided, an integrative structure will be advantageous for mood and self-esteem (Limke et al. 2010).

Compartmentalization: Partner and Parent Knowledge. The process model of compartmentalization, according to which the organizing structure of self-beliefs influences whether beliefs of similar valence are activated (compartmentalized structure) or beliefs of both valences are activated (integrative structure), in principle can be applied to any knowledge structure, not just knowledge about the self. Hence, in follow-up studies with graduate students Kevlyn, Zeigler-Hill, and Limke, the basic model of evaluative organization was applied to knowledge about someone else, specifically a romantic partner or a parent. These studies showed that the basic model of compartmentalization predicted feelings of liking and loving for a romantic partner, with positively compartmentalized structures predicting the highest liking and loving in the short term. However, over 1 year's time, it was these individuals who had the highest rate of relationship breakup, presumably because individuals with integratively organized beliefs were inoculated against the discovery of their partners' flaws. In the case of parents, a compartmentalized structure of beliefs about one's mother predicted a "denying" type of relationship, in which liking, cooperation, and contact was high, despite

acknowledging substantial negative attributes of the mother. An integrative structure of mother knowledge was associated with an evaluatively complex “dealing” relationship characterized by moderate liking and closeness but low cooperation and contact (Showers and Kevlyn 1999; Limke and Showers 2010).

Compartmentalization: Emotionality. Graduate student Ditzfeld explored the emotionality of individuals with compartmentalized versus integrative self-structures. First, he found that compartmentalized individuals were more likely than integratives to use emotional qualities of stimuli (concepts and faces) as the basis of similarity judgments, suggesting that the information processing differences of compartmentalized versus integrative individuals were not restricted to self-knowledge. Second, compartmentalized individuals displayed greater emotional reactivity. That is, compartmentalized individuals both were more likely to experience *and* showed a preference for high arousal positive emotions, whereas they saw low arousal positive emotions as somewhat negative, undesirable states. In contrast, integratives were more likely to experience and to prefer low arousal emotional states. These findings are consistent with the possibility that individuals’ inherent emotional reactivity contributes to a compartmentalized self-structure. They provide an alternative to the initial model for the origins of these types of self-structure in which a compartmentalized structure stems from self-enhancement motives (as opposed to motives of self-accuracy) (Ditzfeld and Showers 2014).

Compartmentalization: Ethical Behavior. This line of research explores the defensive qualities of a compartmentalized self-structure. The basic premise is that compartmentalization allows people to avoid (or rationalize) the negative implications of bad behaviors. In the face of temptation, compartmentalization may foster the perception that an unethical behavior is unimportant, does not reflect on the global self, and is specific to or even caused by a difficult context. In multiple replications of three different cheating paradigms, we found that greater compartmentalization was associated with less ethical behaviors, including waiting for answers

to appear, rather than solving math problems; inflating reports of math problems solved for increased pay; and misreporting coin flips for increased pay. Main effect associations were most common in control conditions that did not include self-affirmation, moral behavior, or values primes; or ego depletion. Under conditions of high ego depletion, integratives (who under control conditions tend to be more honest) showed an ironic effect of increased cheating, presumably because they lack experience resisting the temptation to cheat. Associations between compartmentalization and dishonest behavior were sometimes qualified by individual differences such as narcissism, low free will, high self-control, or impression management, depending on the specific primes or context (Showers et al. 2016; Thomas et al. 2016; Leister 2015).

Community

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Shroud

- ▶ [Shadow](#)

SHS

- ▶ [State Hope Scale](#)

Shyness

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Synonyms

[Behavioral inhibition](#); [Social inhibition](#); [Social reticence](#); [Social wariness](#)

To Appear in: V. Zeigler-Hill & T.K. Schackelford (Eds.), *Encyclopedia of Personality and Individual Differences*. New York: Springer.

Definition

Shyness is a temperamental trait characterized by heightened fear and wariness in novel social situations (e.g., meeting new people) and self-consciousness and embarrassment in situations of perceived social evaluation (e.g., being the center of attention) (Rubin et al. 2009). Shyness is also considered to be a narrow personality trait (related to facets of introversion and neuroticism). In its extreme form, shyness shares some conceptual overlap (but is still considered distinct from) clinically diagnosed social anxiety disorder (Chavira et al. 2002). From a motivational perspective, shyness is thought to reflect a social approach-avoidance conflict. That is, shy individuals desire social contact (high social approach motivation) but at the same time are wary and anxious about participating in social exchanges (high social avoidance motivation). This distinguishes shyness from introversion, low sociability, affinity for aloneness, and other traits characterized by a non-fearful preference for solitary activities.

Among younger children, shyness is typically measured via parental report and/or the use of direct observations of behaviors in challenging social situations (i.e., encountering a stranger, speaking in front of a group). Among older children, adolescents, and adults, researchers most often rely on self-report assessments, given that many aspects of the experience of shyness involve internal states (e.g., emotions, cognitions, motivations).

Introduction

In this essay, we provide an overview of the temperamental/personality trait of shyness. We begin with a brief description of how shyness develops in childhood, including the roles of biology and family factors. We next examine the implications of shyness for socio-emotional functioning and well-being across the life span, including notable risk and protective factors. Finally, we consider emerging research

pertaining to the critical roles of culture and computer-mediated contexts on the meaning and outcomes of shyness.

Developmental Factors

Like most temperamental/personality traits, shyness appears to be relatively normally distributed in the population. Thus, there is no widely established cutoff or criteria for identifying individuals as either shy or non-shy. Notwithstanding, temperamental researchers have suggested that about 15% of children can be characterized as extremely behavioral inhibited or shy (Kagan 1997). In contrast, personality researchers report that adults are much more likely to self-identify as being shy, with 40% indicating that they are currently chronically shy and another 40% reporting that they were previously but are no longer shy (Henderson and Zimbardo 2001).

There appear to be genetic and biological bases to childhood shyness. For example, as compared to their more outgoing counterparts, extreme shy children have been characterized by a constellation of psychophysiological responses that reflect heightened reactivity to social stressors (e.g., higher and more stable heart rates, higher levels of cortisol, right frontal EEG asymmetry, enhanced startle responses, excitability of the amygdala) (Miskovic and Schmidt 2012). This may account for why shyness appears early in life and is considered among the most stable personality characteristics across the life span.

Notwithstanding, parenting and family factors also play an important role. Earlier research focused on the link between child shyness and harsh/punitive parenting. However, contemporary research now focused more extensively on the role of overly anxious and overprotective parenting. For example, anxious parents exacerbate feelings of anxiety in their shy children through the modeling of anxious behaviors and by highlighting threats in the environment (that the shy child is already sensitive to). Moreover, by consistently solving social problems for their shy children – or by simply removing them from challenging social

situations – overprotective parents inhibit the development of shy children’s (much needed) self-regulation and coping skills (Coplan et al. 2008).

Correlates and Outcomes Across the Life Span

In social contexts, shy children tend to speak less, make fewer social initiations to peers, and display poorer social skills than their more sociable counterparts. Perhaps as a result, childhood shyness is predictive of peer relation difficulties, including rejection, exclusion, and victimization. As well, shy children tend to form friendships lower in relationship quality. A transactional process is then thought to ensue, whereby these negative social experiences exacerbate shy children’s negative thoughts and feelings about themselves and others, which in turn further the child’s withdrawal from social interactions, which further heightens negative peer experiences, reinforcing negative thoughts and feelings, and so on (Rubin et al. 2009).

Indeed, from early childhood to adolescence, shyness is concurrently and predictively associated with indices of internalizing problems, such as elevated symptoms of anxiety and depression, as well as heightened loneliness and lower self-esteem (Karevold et al. 2012). Moreover, extreme shyness in childhood is one of the best single predictors of the later development of clinically diagnosed social anxiety disorders among adolescents and young adults (Clauss and Blackford 2012). Taken together, these socio-emotional difficulties may also help to account for why childhood shyness is also associated with school-related challenges, including school avoidance, a lack of engagement, poorer academic performance, and more negative teacher-child relationships (Rubin et al. 2009).

In adulthood, shyness continues to be associated with social unease, verbal reticence, and behavioral restraint, particularly in social contexts characterized by novelty/uncertainty (e.g., talking to a stranger or attending a social event with

unfamiliar people) or perceive social evaluation (e.g., interacting with an authority figure or a member of the opposite sex). Shy adults tend to be less satisfied with and have more difficulties maintaining their romantic relationships (Baker and McNulty 2010). As well, shyness remains a significant correlate of lower self-esteem, anxiety, and other internalizing problems. In adulthood, shyness also becomes increasingly associated with alcohol use, often as a coping mechanism to reduce social unease. Again, taken together, these issues may contribute toward academic challenges during the college years and even interfere with career development (Asendorp et al. 2008).

Notwithstanding, it is also important to acknowledge the positive aspect of shyness. For example, from an evolutionary perspective, shyness may afford some adaptive qualities (e.g., evading predators) and serve to promote social cohesion (e.g., diffident behaviors may diffuse tense social exchanges). Moreover, given the high proportion of the population that self-identify as shy (or as having been shy), some degree of shyness would appear to be normative, and of course, many (if not most) shy individuals do not experience significant adjustment difficulties.

This had led researchers to explore naturally occurring protective factors that might serve to buffer shy individuals from negative outcomes (Rubin et al. 2009). For example, several individual characteristics and abilities (e.g., agreeableness, socio-communicative competence, positive coping skills) have been shown to buffer shy children and adults from some of the socio-emotional difficulties previously described. As well (and as previously described), whereas relationships characterized by anxiety and over-protectiveness may worsen outcomes associated with shyness, more positive relationships with important others (e.g., parents, siblings, peers, teachers, romantic partners) also appear to serve an important protective role. There is also growing evidence to suggest that shyness has more negative implications for males – but is more socially acceptable among females (Doey

et al. 2014). It has been suggested that shyness in males violates gender-stereotypical norms related to male assertiveness and dominance, and as a result, it is responded to more negatively by others.

The Importance of Context

In this final section, we highlight two recently emerging areas of research that illustrate the importance of considering the role of context in the implications of shyness. First, there is also growing interest in the similarities and differences of the meaning and implications of shyness across *cultures*. For example, in collectivistic cultures such as China, shy and sensitive behaviors are traditionally more highly valued, considered indicators humbleness and social maturity, and thought to maintain social cohesion and group-oriented values. Indeed, in studies conducted in China during the 1990s, childhood shyness was associated with positive outcomes, including academic success and peer liking. However, recent years have witnessed profound and rapid economic and societal reforms in China, particularly in large urban areas. The resulting increase in importance of competition in schools and workplaces appear to be rendering shyness as an increasingly maladaptive trait in the evolving social environment. In fact, results from recent studies now indicate that childhood shyness in contemporary urban China is associated with negative outcomes, including academic difficulties and peer rejection (Chen et al. 2005).

Second, social interaction now increasingly takes place in computer-mediated contexts. This has potentially profound implications for shy individuals (Prizant-Passal et al. 2016). Features associated with various forms of computer-mediated communications (e.g., increased anonymity, asynchronicity) make it a preferred form of social exchange for many shy individuals compared to face-to-face interactions. However, communicating with peers via email, text messaging, and social networking apps appears to have both benefits and costs for shy individuals. For example, in online social contexts, shy individuals report

feeling less self-conscious and more comfortable (Sheldon 2013). From this perspective (*Poor Get Richer* hypothesis), individuals who are dissatisfied with their social relationships compensate by increased use of computer-mediated forms of communication. Positive experiences in this context might then translate into more successful face-to-face social interactions. However, there is also evidence to suggest that it is those with already well-developed social relationships that benefit most from the Internet as a social medium (*Rich Get Richer* hypothesis). From this perspective, rather than using computer-mediated communications to further strengthen already-existing relationships, shy individuals end up ultimately worsening their real-world social relationships by retreating even more frequently to virtual communications. In support of this notion, there is at least some evidence linking shyness with Internet addiction.

Conclusion

Overall, individual differences in shyness are associated with social unease, social wariness, and social withdrawal. This characteristic pattern of emotions and behaviors has the potential to negatively impact social functioning, psychological health, and overall well-being. Despite continuing advances, most of what we know about shyness is derived from research with children. Future research is required to better understand the continued development and implications of shyness across the life span. In particular, further support is required to assist with the development, implantation, and evaluation of early ameliorative intervention and prevention programs specifically designed to assist extremely shy children (Chronis-Tuscano et al. 2015).

Cross-References

- ▶ [Approach-Avoidance Conflict](#)
- ▶ [Child Temperament](#)
- ▶ [Introversion](#)

- ▶ [Self-Consciousness](#)
- ▶ [Sociability](#)
- ▶ [Social Anxiety/Social Phobia](#)

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Shyness and Sociability

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Synonyms

Boldness; **Exuberance;** **Social withdrawal;** **Timidity**

Definition

Shyness and sociability are conceptualized as distinct social-motivational-behavioral tendencies (Asendorpf 1990; Cheek and Buss 1981). Shyness is defined as social withdrawal-related tendencies in social situations reflected by active avoidance and an anxious preoccupation with the self in response to real or imagined social interactions. In contrast, sociability is defined as social approach tendencies or a preference to be with others rather than being alone.

Introduction

Shyness and sociability are not only conceptually independent personality traits, but they are also empirically orthogonal. Shyness and sociability

are linked to distinct behavioral and psychophysiological correlates observed across humans and nonhuman animals, which indicate deep roots of these two personality dimensions in our evolutionary history. In humans, the independence of shyness and sociability has been replicated across development in studies of children (Asendorpf and Meier 1993; Coplan and Armer 2007; Coplan et al. 2004; Tang et al. 2016a), adolescents (Mounts et al. 2006; Miller et al. 2008; Page 1990), and adults (Eisenberg et al. 1995; Sheeks and Birchmeier 2007; Tang et al. 2014, 2016b), across cultures in German (Czeschlik and Nurk 1995), Portuguese (Neto 1996), and Asian (Hussein et al. 2011) samples, and across clinical samples (Goldberg and Schmidt 2001; Jetha et al. 2009). In nonhuman animals, the independence of shyness and sociability is captured by individual differences in timid and bold behaviors (for a review, see Reale et al. 2007).

Scientists emphasize the importance of conceptualizing shyness and sociability as separate personality traits to examine their interaction for understanding subtypes of shyness. Contrary to popular belief, people who are shy are not necessarily unsociable: shy people are not all alike. There are at least two subtypes of shyness that result from an interaction of shyness and sociability: shy-sociable (socially conflicted) and shy-unsociable (socially avoidant). See Fig. 1. Shy-sociable individuals are characterized by an approach-avoidance conflict, mixed feelings of social inhibition, and desire to affiliate with others (Coplan et al. 2004). An example is a child who circles around or watches the play group from afar, wanting to be part of the interaction but has trouble joining. In contrast, shy-unsociable individuals are characterized by their low approach and high withdraw-related behavior. An example is a child who avoids social interactions altogether by escaping or removing him/herself from social situations.

Previous empirical work has shown that these two shy subtypes have different behavioral correlates. For example, shy-sociable individuals exhibit more anxious behavior during social interactions (Asendorpf and Meier 1993; Cheek and Buss 1981; Coplan et al. 2004) compared to their shy-unsociable counterparts. Shy-sociable

individuals also perceive that they contribute less to social interactions during everyday mealtime settings (Arkin and Grove 1990), which may reflect their socially conflicted behaviors as they may want to contribute more than their inhibition allows. Contrasting with shy-sociable individuals, shy-unsociable individuals actually rate themselves as less talkative during social interactions than shy-sociable individuals (Schmidt and Fox 1995).

Moreover, there is predictive value in separating shyness and sociability as the two shy subtypes are related to different adjustment and psychological outcomes. Although both shy-sociable and shy-unsociable individuals share some common internalizing problems, shy-sociable children report higher levels of neuroticism that is indicative of higher emotional instability (Tang et al. 2016a). Also, shy-sociable adults report more fears of negative evaluation (Nelson 2013) that reflects their social anxiety. In terms of externalizing problems, shy-sociable adolescents (Page 1990) and adults (Poole et al. 2017; Santesso et al. 2004) are more likely to engage in substance use and abuse, as a combination of shyness and sensation-seeking characteristics are linked to risk-taking behaviors that have been suggested as ways of coping with their social anxiety.

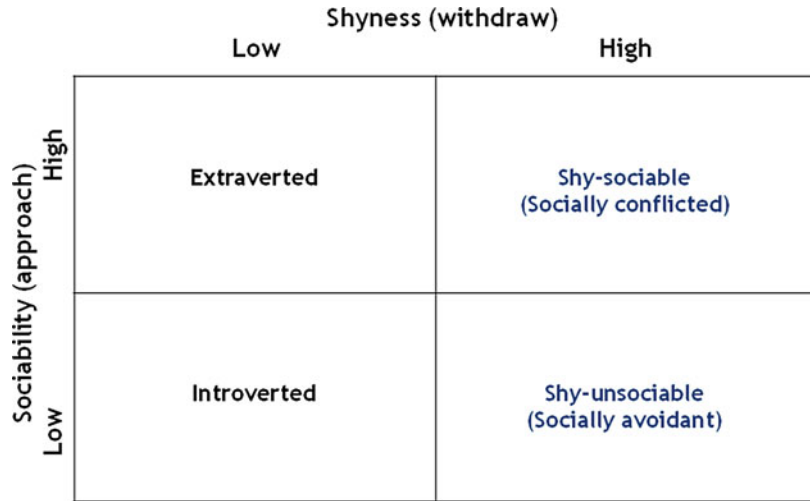
On the other hand, the shy-unsociable subtype is known to have problems related to social withdrawal. For example, shy-unsociable adults report more self-harm behaviors and suicidal ideation (Nelson 2013) and engage in more problematic uses of the Internet, including playing violent video games, watching pornography, and online gambling, which mediate their later socially withdrawn and externalizing behaviors, such as using illegal drugs, shoplifting, and smoking (Nelson et al. 2016).

Beyond descriptive accounts, scientists have also examined psychophysiological correlates in the brain and body as possible mechanisms in maintaining shyness and sociability and the different behavioral and psychological outcomes. Subtypes of shyness are linked to specific correlates of stress vulnerability and reactivity in the autonomic and central nervous systems.

At the peripheral psychophysiological level, studies have demonstrated a unique autonomic

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Fig. 1 Subtypes of shyness resulting from an interaction of shyness and sociability (Note. This model is modified after Asendorpf (1990))



pattern, with higher heart rate and lower vagal tone or lower heart rate variability in shy-sociable children in their everyday environments (Asendorpf and Meier 1993) and in shy-sociable young adults during the anticipation of unfamiliar social interactions, compared to their shy-unsociable counterparts (Schmidt and Fox 1994). This autonomic pattern in shy-sociable individuals indicates they have high stress and sympathetic reactivity and poor emotion regulation. Although not directly tested in these two studies, such hyperaroused sympathetic system is hypothesized to contribute to their anxious behaviors.

At the neurophysiological level, studies using electrocortical measures have identified a common pattern of greater relative right frontal electroencephalographic (EEG) asymmetry at rest in both shy-sociable and shy-unsociable adults. However, the two groups were distinguished by a pattern of absolute activity in the left prefrontal cortex (PFC; Schmidt 1999), as greater left PFC activity was observed in the shy-sociable relative to the shy-unsociable adults. This pattern of electrocortical activity matches the behavioral and affective tendencies in these two subtypes, because greater right frontal EEG asymmetry is related to stress reactivity, negative affect, and withdraw-related behaviors, all of which are also related to shyness. On the other hand, greater left frontal EEG asymmetry is linked to positive affect

and approach behaviors that are related to sociability. Replication of similar frontal EEG asymmetry patterns at rest are observed in clinical samples of patients diagnosed with schizophrenia across cultures who are shy and social (Jetha et al. 2009, 2013; Hussein et al. 2011). Thus, irrespective of disease state and cultural influences, these electrocortical activity patterns may be a conserved neural mechanism that underlies these personality traits and brain-behavior relations.

Another measure of electrocortical activity during the processing of events that can capture specific cognitive stages is event-related potentials (ERPs). In particular, during the processing of novelty and rare stimuli, the P300 ERP component is of interest because higher P300 ERP amplitudes are linked to arousal, working memory, and greater attention allocation and cognitive resources. In processing an auditory oddball task in a group of healthy children, shyness, but not sociability, was related to higher amplitudes of the P300 ERP to target and background tones (Tang et al. 2016a). Although, the same relations were not observed using the same task in a group of healthy adults, shyness, but not sociability, was related to lower amplitudes of the P300 ERP to novel tones (Tang et al. 2016b). These results suggest that shyness and sociability are separable on this electrocortical measure, even though there may be some developmental differences. Moreover, those children who were characterized by

higher levels of both shyness and sociability (shy-sociable children) exhibited higher P300 ERP amplitudes in processing background auditory tones, which in turn mediated their higher self-reported levels of neuroticism (Tang et al. 2016a). Accordingly, this hypervigilance during baseline conditions may contribute to shy-sociable individuals' greater emotional instability.

In addition to autonomic and central measures of arousal/reactivity at rest and during information processing, neuroendocrine measures might also offer insight to different types of shyness and sociability as arousal manifests on multiple levels in the brain and body. One neuroendocrine measure that has been used to study shyness and sociability in humans is salivary cortisol. Cortisol is a predominant glucocorticoid produced by the hypothalamic-pituitary-adrenal axis (HPA-axis) in humans to index stress reactivity and regulation, given increased cortisol release in the bloodstream mobilizes energy for action during fight or flight situations is mediated by the sympathetic nervous system. A particular measure of cortisol is the cortisol awakening response (CAR) that is a peak of cortisol secretion within the first hour after awakening to prepare individuals for the upcoming day, which is linked to trait-like personality rather than states.

A recent study has examined how the neuroendocrine system and brain functioning are related to the processing of social threat in different subtypes of shyness. This functional magnetic resonance imaging (fMRI) study captured spatial locations of brain activity and found that variation in the salivary CAR in shy adults predicted the recruitment of a distinct pattern of brain regions for processing angry threatening faces relative to nonshy adults (Tang et al. 2014). Shy adults who exhibited a relatively higher CAR displayed neural activity in putative brain regions involved in emotional conflict and awareness, such as the bilateral rostral anterior cingulate, and were more sociable. This brain-hormone-behavior pattern is consistent with the shy-sociable subtype of shyness, as relatively higher CAR is hypothesized to be linked to greater energy output for being sociable. In contrast, shy adults who displayed a

relatively lower CAR exhibited neural activity in putative brain regions linked to fear, withdrawal, and depression, such as the amygdala, posterior cingulate, and insula, and were unsociable. This brain-hormone-behavior pattern is consistent with the shy-unsociable subtype of shyness, with relatively lower CAR hypothesized to be linked to less energy output for being socially withdrawn. Lastly, no systematic pattern of CAR was related to brain activation patterns in nonshy adults.

Taken together, these results suggest that individual differences in the reactivity of the neuroendocrine system can influence brain functions that facilitate social approach or withdrawal tendencies among people who are shy. Moreover, these brain-body patterns can distinguish different types of shy individuals. Overall, changes of the neuroendocrine system may impact autonomic and cognitive-affective neural processes linked to arousability, as well as different motivational behaviors in shy individuals.

Conclusion

Shyness and sociability are independent personality traits, and shy people are not all alike. When the interaction of these two personality traits is considered, subtypes of shyness, which have distinct behavioral correlates and outcomes, and psychophysiological patterns in the brain and body, can be observed. However, it is important to note that some of these differences are not qualitatively but quantitatively distinct, in terms of relative degrees. Accordingly, future research is needed to replicate these findings and establish the stability of shyness subtypes across a long period of time (e.g., Tang et al. 2017) to examine whether these personality styles change or remain constant across development.

Cross-References

- ▶ [Boldness](#)
- ▶ [EAS Temperament Model](#)
- ▶ [Extraversion](#)

- ▶ [Introversion](#)
- ▶ [Shyness](#)
- ▶ [Surgency](#)

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SI

► Splitting Scale

Sibling Differences

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Synonyms

[Sibling dissimilarities](#); [Sibling divergence](#)

Definition

Sibling differences refer to individual variations between genetically related siblings. These may be due to genetic or environmental influences and include physical features, intelligence, personality, interests, goals, and well-being.

Introduction

Siblings share both genetic and familial similarities. First, on average, siblings share 50% of their genetic makeup. Beyond this generic similarity, their shared parents and home environment are additional joint experiences.

Considering the genetic and familial similarities between siblings, it would be expected that throughout life brothers and sisters would be similar in many elements of personality, interests, and cognitions. However, an interesting phenomenon often noted by parents and corroborated by the

scientific literature is that siblings in many circumstances can be considerably different from one another in many ways. Two theories focusing on environmental influence that may account for such differences are the effects of non-shared environment and sibling deidentification.

Non-shared Environment

A considerable literature exists on the influence of an individual's non-shared environment on producing differences between siblings (Plomin 1996; Plomin et al. 1994, 1996). Beyond genetic similarities between siblings, various family and context-based factors are shared between siblings. However, in addition to these shared experiences, each sibling within the family has a considerable number of non-shared experiences as well. For example, each sibling in a family develops his or her own unique friendships in the neighborhood and in school. Siblings will also differ in interaction with teachers, and they will also experience their unique share of illnesses or accidents (Dunn and McGuire 1994; Rowe et al. 1994). All of these factors produce a divergent environment for each individual sibling in a family. It is this non-shared environment that may account for the commonly found differences between siblings in their personality, interests, and cognitions. Beyond the non-shared environment that siblings may experience outside of the house, even within the home siblings may endure unique experiences such as the way parents interact with each individual child in the family (Shebloski et al. 2005). All these extra-familial and inter-familial variations that each individual child within the family experiences coalesce to produce a profoundly different context in which each of the children in the family is reared which ultimately produces the found differences between siblings.

Sibling Deidentification

An additional area of literature that may account for sibling differences is what is referred to in sibling literature as sibling deidentification

(Feinberg and Hetherington 2000; Milevsky 2011). Unlike the non-shared environment theory, and its focus on influences that are exacted on a passive child, the theory of sibling deidentification suggests a more active process that siblings engage in, producing sibling differences. The theory of sibling deidentification suggests that in order to minimize sibling rivalries children within a family may actively decide to pursue a life course that is markedly different than the ones chosen by their siblings. By choosing to be different in multiple personality and interest factors, there is less room for sibling comparisons which in turn minimizes rivalry and hostility. In essence, siblings actively choose to be different than one another in order to minimize sibling aggression.

Sibling deidentification is particularly marked in siblings who are naturally more similar to one another (Schachter et al. 1976). For example, sibling deidentification may be triggered more intensely in siblings that are close in age or siblings who are similar in gender. The natural age or gender similarities between the siblings may produce heightened sibling comparisons by family members, friends, and others. In order to defend against the comparisons, siblings will actively carve out their own identity, or deidentify, in order to put an end to the comparisons that are being made.

Conclusion

Hence, sibling differences due to the environment may be a product of a passive process or an active process. Passively, sibling differences may be a function of the non-shared environment that each sibling experiences. Actively, sibling differences may be a function of deidentification processes that are enacted by each individual sibling to minimize comparison, competition, and rivalry.

Cross-References

- ▶ [Environmental Conditions and the Development of Personality](#)
- ▶ [Gene-Environment Interaction](#)

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Sibling Dissimilarities

- ▶ [Sibling Differences](#)

Sibling Divergence

- ▶ [Sibling Differences](#)

Sick Role

- ▶ [Primary and Secondary Gain](#)

Sigmund Freud

- ▶ [Rank, Otto](#)

Significance Testing

- ▶ [Hypothesis Testing](#)

Similarity

- ▶ [Dyadic Effects](#)

Simplicity

- ▶ [Parsimony](#)

Simulation

- ▶ [Faking Behavior](#)

Single Nucleotide Polymorphism

- ▶ [Genetic Polymorphism](#)

Single-Case Research Design

- ▶ [Idiographic Study of Personality](#)

Sins

- ▶ [Seven Deadly Sins](#)

Situation

- ▶ [Personality Processes](#)

Situational Affordances

- ▶ [Assessment of Situational Influences](#)

Situational Demands

- ▶ [Assessment of Situational Influences](#)

Situational Factors

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Definition

Situation factors, taken more broadly, may refer to (a) situation cues (objective physical stimuli in an environment), (b) psychological situation characteristics (subjective meanings and interpretations of situations), and (c) situation classes (types or groups of entire situations with similar cues or similar levels or profiles of characteristics). More narrowly, situation factors may refer to broad dimensions of situation characteristics that can be used to describe and compare any situation.

Key Information

The definition of what a situation is has been a thorny issue in psychology (Reis 2008). Recently, Rauthmann and colleagues (Rauthmann et al. 2014; Rauthmann 2015; Rauthmann et al. 2015a) proposed to see situations sets of fleeting, dynamic, and momentary circumstances that do not lie within persons, but in their surroundings. Situations then contain objectively quantifiable stimuli (cues) that may be perceived and interpreted by persons (thus creating psychological situation characteristics), and one may classify situations according to their cues or characteristics (thus creating situation classes). Thus, somewhat circumventing the rather philosophical question of just what exactly a situation is, Rauthmann (2015) proposed a more pragmatic route to focus on actually measurable

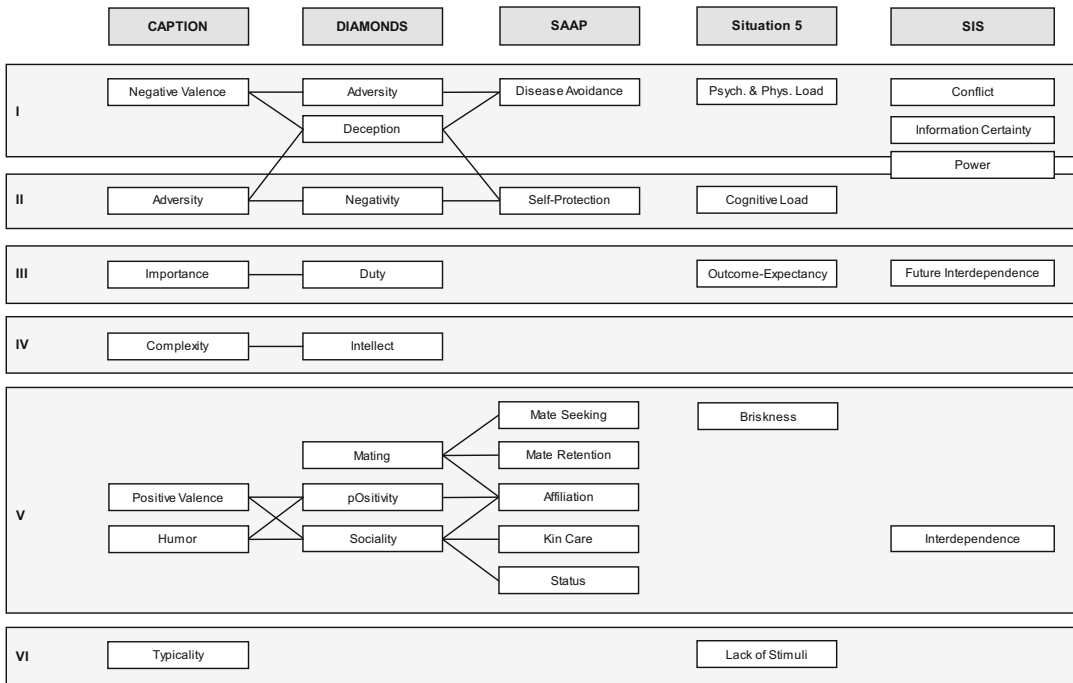
aspects, the three Situational Cs: cues, characteristics, and classes.

Situation research in general has seen a resurgence in interest and publication volumes in the last decade (Funder 2016; Reis 2008). More specifically, however, this burgeoning field in psychology is now often primarily concerned with people's mental representations of ongoing events (psychological situations) which can, in turn, explain and predict their mental processes, behavior, and health (Rauthmann et al. 2015a). Instead of attending to single cues or abstract situation classes, much of the current research focuses on situation characteristics which capture the psychological meaning and interpretation of a situation (Rauthmann et al. 2014). This allows a differential psychology of situations where any situation can be described and compared by a set

Situational Factors, Table 1 Recent taxonomies of situation characteristics with validated measurement tools

Taxonomy	Reference	Tradition	Item format	Dimensions	Further evidence
DIAMONDS	Rauthmann et al. (2014) Rauthmann and Sherman (2016a, b)	Atheoretical (from the RSQ)	Short phrases	8	<ul style="list-style-type: none"> • Mean-level stability across the lifespan (Brown and Rauthmann 2016) • Personality-driven situation contact and construal (Rauthmann et al. 2015) • Prediction of momentary mental processes and behavior (Jones et al. <i>in press</i>; Rauthmann et al. 2016; Sherman et al. 2015) • Description of twitter situations (Serfass and Sherman 2015) • Capturing daily lives and dynamics (Rauthmann and Sherman 2016c) • Accuracy of judging others' situations (Rauthmann and Sherman <i>in press</i>)
SAAP	Brown et al. (2015)	Theoretical (evolutionary theory)	Short sentences	7	Pending
CAPTION	Parrigon et al. (2017)	Lexical (English)	Adjectives	7	Pending
Situation 5	Ziegler (2014)	Lexical (German)	Adjectives	5	Relations with affect (Horstmann and Ziegler 2017 under review)
SIS	Gerpott et al. (<i>in revision</i>)	Theoretical (interdependence theory)	Short sentences	5	Pending

Note. Sorted chronologically by date of publication. The labels of the respective dimensions can be found in Fig. 1.



Situational Factors, Fig. 1 Convergences between situation characteristic dimensions in extant taxonomies. SAAP situational affordances for adaptive problems, SIS social interdependence scale lines represent empirically found (substantive) correlations between dimensions. Not

all relations could be inserted (e.g., DIAMONDS – Situation 5) to keep the figure simple. (Note. Adapted from Rauthmann and Horstmann (2017, licensed under CC-BY 4.0)

of characteristics dimensions (much like how persons can be described by traits). Such dimensions can be said to represent broad situational factors.

As summarized in Table 1, there are as of the year 2014 five recent taxonomies (DIAMONDS, SAAP, CAPTION, Situation 5, SIS) available that were *independently* developed from different teams with different item pools, samples, and data-analytical methods (overview in Horstmann et al. 2017). Notably, these taxonomies have also provided psychometrically validated measurement tools of the proposed situation characteristics dimensions. More importantly, despite the differences in the taxonomization processes involved (Rauthmann 2015), these taxonomies show several striking conceptual and empirical convergences, as depicted in Fig. 1. The convergences point towards six replicable domains of situation characteristics (Table 2): I (*Threat*), II (*Stress*), III (*Processing*), IV (*Tasks*), V (*Fun*), and VI (*Mundane*). Perhaps interestingly but not

necessarily surprisingly, the first five domains bear in content a striking semblance to the Big Five or Six personality traits. It is plausible to assume that the human perceptual system has gotten attuned to perceiving certain fitness-relevant information over the course of evolution (Miller 2007; Rauthmann 2016). For example, it is vital to survival and reproduction to know whether other people, a group, or the situation (often consisting of people) will pose a threat, cause stress, require problem-solving, need something done, will be fun, or provide for routine. Additionally, person and situation perception may be linked for several reasons (Asendorpf *in press*; Nystedt 1981; Rauthmann et al. 2015a; Rauthmann 2016), such as the same perceptual system being used (there needs to be a perceiver) and overlapping information being available (e.g., others’ behaviors can be used for personality and situation judgments). Since the five-factor model of personality seems to capture the

Situational Factors, Table 2 Six replicable domains of situation characteristics

Replicable domain		Construct definition: The dimension describes situations that afford or require . . .	Analog personality traits
I	<i>Threat</i>	Overcoming external threats and obstacles	Agreeableness (–), honesty/humility (–)
II	<i>Stress</i>	Dealing with (internal) negative events that may cause distress	Neuroticism (+)
III	<i>Tasks</i>	Getting an important or urgent task accomplished	Conscientiousness (+)
IV	<i>Processing</i>	Using deeper and effortful cognitive information processing	Intellect/openness (+)
V	<i>Fun</i>	Engaging with pleasant and fun events	Extraversion (+)
VI	<i>Mundane</i>	Routine, automaticity, repetition	?

structure of social perceptions (Srivastava 2010) and many situations are social or interpersonal in nature (Bond 2013; Reis 2008), we can expect overlap in person(ality) and situation perception factors.

As can be seen in Fig. 1, psychological situation research is progressing towards a reasonably comprehensive taxonomy of situation characteristic domains that are replicable across research efforts. Future research may seek to uncover hierarchical trans- or pan-cultural taxonomies with higher- and lower-order factors.

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Situational Strength

- [Assessment of Situational Influences](#)

Situational Structure

- [Assessment of Situational Influences](#)

Situation-Behavior Signatures

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Synonyms

[Behavioral signatures](#); [Cognitive-affective processing system](#); [If-then signatures](#); [Person × situation interaction](#); [Person-environment transactions](#)

Definition

Situation-behavior signatures are reliable *if-then* intraindividual patterns of behavioral variability, whereby particular classes of situations consistently elicit predictable experiences and actions on the part of the individual.

Introduction

Traditional models of personality generally assumed that traits reflect relatively stable dispositions that endure over time. On this assumption, one might expect traits to manifest as consistent ways of thinking, feeling, and behaving across disparate situations. In other words, traits might be framed as stable cross-situational regularities in one's tendency to respond (Moskowitz and Fournier 2015). For example, highly affiliative individuals might be expected to exhibit similar levels of affiliation at work, with friends, and with loved ones. Accordingly,

empirical research on traits might be used to draw generalized conclusions on how people with similar traits would behave in a variety of situations, for instance, via five-factor model traits such as agreeableness, extraversion, neuroticism, conscientiousness, or openness to experience (McCrae and Costa 2008).

Concerns About Traits and the Consistency of Behavior

Despite the intuitive plausibility of the notion that individual differences in traits should provide information about behavioral consistency, Mischel (1968) provided a strong critique of such assumptions. He highlighted that cross-situational consistency in behavior was often not high (i.e., there exists substantial intraindividual variability in behavior across situations), and studies showed that it remained surprisingly difficult to accurately predict an individual's behavior consistently in specific situations (Mischel and Shoda 2008). Instead, situational factors may exert a stronger influence on how individuals act in particular contexts. This challenged the basic premise of personality traits as stable, enduring, internal characteristics that predict future behavior. Per this perspective, one might posit the inconsistency of behavior as the only consistency. This apparent paradox led to a protracted debate on whether personality characteristics or situational features more accurately explain behavior, and even whether or not personality traits exist given high cross-situational variability (e.g., Bem and Allen 1974).

However, framing a debate between personality and situations as mutually exclusive factors was likely myopic and less wise than asking *how* personality might manifest consistency across situations, given the reality of intraindividual variability. Indeed, even in the infancy of personality science, Gordon Allport (1937) posited that traits may be activated in some situations and not others but generate equivalent types of responses given similar classes of situations. Alternatively, aggregation of behaviors across situations (e.g., mean tendencies) provides one way to locate greater consistency over time,

increasing the correlation between tendencies in different periods of time and increasing the prediction of subsequent behavior (e.g., Moskowitz 1994). Nonetheless, by culling only the shared variance across contexts, aggregation “throws away” information about specific situations. However, when sampling repeated measures of within-person states in multiple time periods (e.g., weeks), not only is the aggregated mean of one's behavior in a given period predictive of the mean in a subsequent period but also other features of one's distribution of states (e.g., variability around the mean, skew, kurtosis) correlate positively between time periods (Fleeson 2001). Thus, individual differences in one's tendency to vacillate across situations (e.g., interpersonal *flux*, *pulse*, and *spin*) are consistent (Moskowitz and Zuroff 2004) and correlate with other personality traits (e.g., Erickson et al. 2009). In other words, the stability of traits and high within-person variability are not mutually exclusive (Fleeson and Law 2015), and personality consistency may be operationalized in a broad range of ways (Fleeson and Nofhle 2008).

Situation-Behavior Signatures

The aforementioned ways of investigating personality consistency yield useful information, but remain limited in some ways. Rather than predicting an individual's behavior in a specific context, personality traits and behavioral aggregates reflect a central tendency toward responding. Therefore, using personality traits to describe behavior is helpful in certain contexts (i.e., describing behavior in general), but may not explain why specific behaviors occur in specific situations. One-time administrations of trait measures correlate with aggregated means of behavior over time (Fleeson and Gallagher 2009) but may obscure important within-person variability around one's average tendencies. Moreover, broad indices of variability (e.g., standard deviation) may remain stable across multiple time periods but do not explain why an individual's behavior varies in a particular way in a particular situation (e.g., why

one becomes more submissive following others' cold but not dominant behavior).

However, at the level of the individual, one might look beyond apparent inconsistency across situations to examine person-specific patterns of behavioral variation. *Situation-behavior signatures* provide a particularly important way to conceptualize personality consistency (Shoda et al. 1994). According to this framework, an individual's tendency to respond to particular situations with particular classes of behavior – regardless of one's general level of the behavior – may remain stable over time. These *if-then* patterns that occur at the level of the individual (or relatively homogeneous groups) therefore represent the core behavioral expressions from which we may infer personality consistency. For instance, in two individuals endorsing similar scores on the trait of compassion, further analysis may reveal very different contexts in which they express compassion. *If* or when Person A encounters an in-group member in distress, *then* he or she consistently displays compassionate interpersonal behavior (but not with out-group members). In contrast, as in the parable of the "Good Samaritan," Person B may reliably express compassion most strongly when encountering a stranger or distressed member of an out-group. In this hypothetical scenario, trait levels of compassion obscure important patterned regularities that reveal very different personalities. One might draw an analogy to how individuals with a particular type of allergy become differentially sensitive and reliably respond with itching behavior only in the context of particular allergens; the allergy does not imply reactions in every moment or on average, but rather a predictable form of responsiveness to an environmental trigger. Thus, mapping *if-then* situation-behavior patterns or behavioral signatures may yield ideographic, person-specific information important to understand an individual's personality (Mischel and Shoda 2008). This model need not replace the study of personality traits, given that individuals who are similar on particular *if-then* signatures may score similarly on a trait; however, traits may be better suited for describing general trends in responding across situations.

Cognitive-Affective Processing System

The Cognitive-Affective Processing System (CAPS) model provides a rich meta-theoretical framework from which to explain how specific *if-then* situation-behavior patterns occur and why they remain consistent over time across seemingly different situations. The model portrays the internal psychological mechanism behind the stability of behavioral signatures in terms of cognitive-affective units (CAUs), which make up an individual's Cognitive-Affective Processing System (Shoda et al. 2015). CAUs comprise a network of interconnected thoughts and emotional states that include expectancies, beliefs, values, goals, affects, and behavioral scripts. Features of a situation activate relevant CAUs within the CAPS network. CAUs particular to the individual mediate the relationship between a situation and behavior, giving rise to behavioral signatures.

CAUs are theorized to be both situation- and person-dependent. They are situation-dependent, in that particular CAUs become activated by the perceived features of a situation, whether the situation is external or internal. The features of the situation activate person-specific associations between particular cognitions, affects, and behaviors. If two very different situations and their situational features share configurations, they may nonetheless activate the same CAU. Both excitatory and inhibitory connections may exist between CAUs. Inhibitory interconnections decrease the CAU's activation, whereas excitatory connections increase its activation. However, the network of interconnected CAUs, with their patterns, strengths, and associations, differ from person to person. Hence, in this model, responses to a situation depend on both situational features and person-specific patterns of connections between thoughts, emotion, and behavior, creating predictable variation in one's behavior across situations.

A person's CAPS network is theorized to remain relatively stable over time, explaining personality consistency, while simultaneously accounting for why certain behavioral responses tend to occur only in particular contexts. For example, in examining factors leading to children's aggression, Shoda et al. (1994) found

evidence for person-specific stability of behavioral signatures across situations. Some children consistently engaged in verbal aggression when warned by an adult, but less so when confronted by peers. In contrast, other children consistently evidenced verbal aggression when confronted by peers but were less aggressive when warned or punished by adults. Interestingly, these stable patterns would remain hidden had behavioral tendencies been aggregated across situations, buttressing the argument for the need to attend to situation-behavior profiles.

Applications

In addition to providing an ideographic approach to understanding personality, the CAPS model may elucidate the *if-then* patterns characteristic of groups that share similar psychological features, as well as describe how the same situation may elicit different responses across individuals. For instance, Mendoza-Denton et al. (1997) examined how the CAPS model explained diverse emotional reactions following the trial of OJ Simpson. Participants' coded essay responses revealed distinct networks and strengths of association between CAUs for those who endorsed feeling elated following the verdict (e.g., Furman testimony→Mark Fuhrman is racist→The evidence is questionable→Justice was done→Elation), compared with those who endorsed dismay (e.g., Crime scene→There is a mountain of evidence→The verdict is wrong→Dismay).

If-then situation-behavior profiles are also evident in interpersonal interactions – those characterized by dimensions of dominance versus submission and warmth or agreeableness versus coldness or quarrelsomeness. Consistent with the idea of similar situational features activating relevant shared networks, individuals ascribing shared meanings to similar interpersonal situations may exhibit similar behavior. Specifically, Fournier et al. (2008) found evidence for normative influences of situation on behavior (e.g., perceptions of others' dominance correlated negatively with self-reported dominance in daily life, and others' agreeableness correlated with

agreeableness of the self). However, even after accounting for those effects, distinct interpersonal situation-behavior profiles were present and stable over time. For instance, one participant consistently behaved most submissive when perceiving others as agreeable-dominant and quarrelsome-dominant, but much less when others were agreeable-submissive or quarrelsome-submissive.

Lastly, situation-behavior profiles may inform the conceptualization and treatment of clinical problems. For instance, internal and external cues trigger anxiety via situational appraisals. If situations are appraised as similar to previously threatening experiences, the appraisals may activate CAUs of distress and avoidant coping. However, using the CAPS model may facilitate interventions to target person-specific *if-then* patterns, with the goal of decreasing the links between anxiety-provoking situations and concomitant anxious responses. One such example of a clinical intervention featured a CAPS daily diary for stress management (Shoda et al. 2013), on which participants tracked cognitions and emotions for difficult situations. The diary cards facilitated identification of client-specific situational elicitors of stress and coping strategies, informing therapist interventions. Although further empirical study is warranted, this study provided a preliminary example of the utility of applying situation-behavioral profiles to treatment contexts.

Conclusion

Situation-behavior signatures provide a rich way to conceptualize personality. They identify sources of personality consistency without discarding information on intraindividual factors. Instead, such models explain intraindividual patterns of behavioral variability and merit further attention in efforts to build an ideographic science of personality.

Cross-References

- ▶ [Personality Consistency](#)
- ▶ [Person-Situation Interactions](#)
- ▶ [Situation](#)
- ▶ [Traits](#)

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Sixteen Personality Factor Questionnaire (16PF)

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Definition

The Sixteen Personality Factor Questionnaire (16PF), originally developed by Cattell and Mead (1949), is a 185-item measure of normal personality which is currently in its fifth edition. The instrument utilizes a multiple choice response format to assess 16 primary scales, 5 second-order scales, and 2 third-order scales. The questionnaire

is available in computer or paper and pencil formats, and there are a variety of age-adjusted, condensed, and modified versions for use in various settings.

Introduction

The 16PF is one of the oldest, most researched, and most influential measures of normal personality. Currently in its fifth edition, the most modern version of the 16PF was published in 1993 and later normed on 2000 US census data in 2001 (Cattell and Schuerger 2003). This instrument is the product of several decades of research and is the result of data from behavioral observations, questionnaires, and experimental research (Cattell and Cattell 1995; Cattell and Mead 2008). Cattell, who was strongly influenced by advancements made in the physical sciences, aimed to apply scientific methods to the study of individual differences in order to discover a fundamental structure of personality in much the same way that physical scientists had done with the natural world (Cattell and Mead 2008). Traditional questionnaire development at the time relied largely on theory. Cattell and his colleagues departed from this method by relying on factor analysis and other statistical methods to generate the structure of the 16PF. The 16PF has proven to be useful in identifying personality traits, predicting real-world behavior, and providing insight into individual's motivations (Cattell 1956).

Development and Theoretical Underpinnings of the 16PF

Cattell believed that three domains of information were necessary to comprehensively understand personality. The first was life observation or L-data, which was generated by observing people in real-life situations. The second was information generated from self-report questionnaires or Q-data. The final domain examined objective tests which Cattell referred to as T-data. These data were generated from paper and pencil tests measuring ability in an area as

well as from laboratory-based experiments. The main difference between Q-data and T-data was that Q-data relied one's perception of her traits, while T-data was a demonstration of her traits. All these areas of data were collected to generate the content for the 16PF.

The structure of the 16PF is based off of Cattell's multilevel personality theory which is akin and sometimes uses synonymously with his factor-analytic theory. Cattell's multilevel personality theory begins with identification of the primary traits of personality. Through factor analyzing people's responses to descriptions of their personality, he and his colleagues identified 16 primary factors, hence the 16PF. Cattell conceptualized these as the most basic and fundamental components of personality upon which individual differences might be observed (Cattell and Mead 2008; Cattell and Krug 1986). He and his colleagues then factor analyzed the 16 primary factors to arrive at 5 second-order (global) factors. These factors are believed to represent broader more holistic facets of personality that are interrelated with the 16 primary factors, yet are still distinct. These five scales are akin to what have become known as the Big-Five personality traits. Although today the makeup of these traits differs slightly depending on the scale being used, and they are often orthogonally derived (e.g., the NEO Personality Inventory – Revised; Costa and McCrae 1992). Finally, Cattell and his colleagues factor analyzed the five secondary factors to arrive at two third-order (super) factors. These third-order factors are believed to represent the broadest and most theoretical distinctions in personality. The scales of the 16PF have been shown to be accurate predictor of real-world behavior (Bartram 1995).

Content and Scales

The 16PF consists of 185 statements describing either potential everyday situations or responses to everyday situations. The situations are concrete and respondents are asked to determine whether the statements are descriptive of the way they behave or indicating how they would generally

behave. Three possible multiple choice answers are provided with the middle always being a question mark or indicating that the respondent does not know how to respond. The 16PF questionnaire is designed to measure normal personality functioning as opposed to personality disorders. The 16 primary traits include the following. *Warmth* (A) measures the degree to which an individual is compassionate and caring as opposed to impersonal and indifferent. *Reasoning* (B) measures one's capacity for abstract thought and intellectual curiosity. *Emotional stability* (C) measures one's ability to remain calm, non-reactive, and flexible. *Dominance* (E) measures an individual's assertiveness and conformity. *Liveliness* (F) measures one's enthusiasm, caution, and seriousness. *Rule-Consciousness* (G) measures concern over rules and sense of duty as opposed to nonconformity. *Social Boldness* (H) measures one's shyness, friendliness, and adventurousness. *Sensitivity* (I) is a measure of one's sentimentality and objectiveness. *Vigilance* (L) measures the degree to which someone is suspicious and guarded in contrast to trusting and gullible. *Abstractedness* (M) measures an individual's state of practicality and imagination. *Privateness* (N) measures one's tact, genuineness, and propensity for disclosure. *Apprehension* (O) is a measure of one's insecurity, complacentness, and self-confidence. *Openness to Change* (Q1) measures an individual's openness to experimentation versus reliance on tradition. *Self-Reliance* (Q2) assesses one's capacity for solitary action as opposed to group orientation and dependence on others. *Perfectionism* (Q3) measures one's discipline, organization, and tolerance for disorder. *Tension* (Q4) measures one's drive, energy, and patience.

The second-order scales are composed of the first-order scales. The five second-order scales include the following. *Extraversion*, which is composed of *Warmth*, *Liveliness*, *Social Boldness*, *Privateness*, and *Self-Reliance*, is believed to measure the degree to which one is outgoing and socially uninhibited. *Anxiety Neuroticism*, which is composed of *Emotional Stability*, *Vigilance*, *Apprehension*, and *Tension*, is purported to measure anxiety and emotional sensitivity. *Tough-Mindedness*, which is composed of

Warmth, *Sensitivity*, *Abstractness*, and *Openness to Change*, is purported to measure fortitude, determination, and resolve. *Independence* is made up of the primary scales *Dominance*, *Social Boldness*, *Vigilance*, and *Openness to Change*. *Independence* is believed to measure agreeableness and willfulness. The final second-order scale, *Self-Control*, is composed of *Liveliness*, *Rule-Consciousness*, *Abstractness*, and *Perfectionism*. It is believed to measure one's restraint and ability to inhibit impulses. The first-order scale of *Reasoning* does not load on any of the second-order scales.

Administration and Interpretation of the 16PF

Minimal supervision is required for administering either the paper and pencil version or the computerized version of the 16PF. The questionnaire is untimed, but administration typically takes 30–50 min. The questionnaire can be administered individually or to a group of people. The entirety of the 16PF is written at a fifth-grade level and is designed for ages 16 years and older. There are several computer-based interpretations which are available. During interpretation emphasis is placed on the 16 primary scales over the second- and third-order factors. This is because the primary scales have been shown to be better predictors of behavior and more specific indicators for the motivations behind behaviors than the other factors.

Alternate Versions and Related Measures

Several other versions of the 16PF have been developed for use in specific populations. Three age-adjusted versions have been constructed, the Early School Personality Questionnaire (ages: 6–8 years), the Children's Personality Questionnaire (ages: 8–12 years), and the 16PF Adolescent Personality Questionnaire (ages: 12–18 years). The PsychEval Personality Questionnaire utilizes

the 16PF's set of traits and was designed to measure normal as well as abnormal personality dimensions (Cattell and Mead 2008). This is one of the more popular variations and utilizes the same 16 primary scales, 5 global scales, and 3 response bias scales, in addition to a number of scales designated to measure psychopathology and abnormal personality functioning. The 16PF Select (20-min) which was designed to aid in employee selection and 16PF Express (15-min) are both abbreviated versions of the questionnaire. There are also numerous translations of the versions and variations of the 16PF in other languages.

Applications

Throughout its history, the 16PF has been used in clinical, educational, industrial, and research settings. Clinically, the 16PF has historically been used to provide a more holistic and rich account of individuals presenting for psychotherapy, as well as identify risk factors for psychological distress (Karson and O'Dell 1976). The 16PF cannot be used for diagnosis, but can inform the diagnostic picture by providing relevant information about personality. It has also been used in marriage and family counseling to identify points of potential friction between couples and identify interpersonal strengths and weaknesses (Cattell et al. 1970). The 16PF has a history of use in educational settings to help identify learning styles and aid in advising (Cattell et al. 1970), and it has been used in Industrial Organizational Psychology to aid in personal placement (Cattell et al. 1970). The 16PF is not commonly used in these settings today; however, its development inspired or directly leads to the creation of many of the questionnaires that are prevalent in these fields.

Conclusion

The Sixteen Personality Factor Questionnaire was one of the first objective measures of normal personality, and its influence on the field of

personality assessment has been immense. Four major revisions have occurred since the questionnaire was first developed in 1949. It is easy to administer, 185 items long, and takes 30–50 min to complete. The design is based on Cattell's factor-analytic theory and includes 16 primary, 5 second-order, and 2 third-order factors. Originally developed to measure adult normal personality, the questionnaire has been adapted for use with a variety of age ranges and has inspired variations for use in clinical and other specific populations.

Cross-References

► [Exploratory Factor Analysis](#)

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Sixteen-Factor Model of Personality, The

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Definition

The sixteen-factor model of personality represents a unique and momentous chapter in the history of personality research. Emerging out of the lexical tradition and factor analytic studies, the sixteen-factor model was the first scientifically derived personality taxonomy (Tucker 2009). The sixteen-factor model of personality provided researchers with a taxonomy to describe, understand, and study personality at a time when no adequate taxonomy of personality characteristics was available (John 1990). Moreover, the sixteen-factor model stimulated new thinking and generated a vast quantity of research in contemporary personality psychology (Ryckman 2012). Furthermore, this model introduced the quantitative approach to the study of personality, which paved the way for the development of later trait models such as the five-factor model of personality (Matz et al. 2016).

Introduction

Despite its revolutionary impact, the sixteen-factor model was subjected to many criticisms and as a result was never as widely accepted as was anticipated (Cervone and Pervin 2016). Indeed, the past few decades has seen an increasing interest in the five-factor model (Digman 1990), which since its emergence (McCrae and Costa 1985), has dominated the sixteen-factor model in contemporary personality science. Nevertheless, the sixteen-factor model is no less valuable to the study of personality today than it was a few decades ago. Although its utility has been immensely surpassed by the five-factor model, it

continues to be a model that is at the center of contemporary personality assessment (Weiner and Craighead 2010). This chapter presents a comprehensive review of the sixteen-factor model contributions to the study of personality. Specifically, we will discuss the history and development of the model, the validity of the factor structure of the 16 personality factors, its use and application since its emergence, and its continued relevance to contemporary personality assessment.

History and Emergence of the Sixteen-Factor Model of Personality

The sixteen-factor model of personality is the product of a large-scale research effort that was led by the eminent psychologist, Raymond B. Cattell (1905–1998). Born in Staffordshire, England, during the early 1900s, Cattell bore witness to the life-transforming results (e.g., electricity, radios, telephones, automobiles) of scientific research (Cattell and Mead 2008). This inspired him to pursue a career in the field, and at the age of 16, he entered the University of London, where he majored in Physics and Chemistry. Three years later, Cattell graduated from the University with high honors. While pursuing his studies, he became increasingly concerned with social problems and came to the realization that his training in the natural sciences did not prepare him to deal with those problems. Cattell then chose to discontinue his studies in the natural sciences and turn his attention to psychology, and in 1929, earned his PhD in the field from the University of London (Hergenhahn and Olson 2007). During his graduate studies, Cattell worked with the prominent psychologist-statistician Charles E. Spearman (1863–1945), the inventor of the factor analysis technique. It is his work with Spearman – developing the method of factor analysis to apply to the study of intelligence – that inspired him to apply factor analysis to the study of personality, which eventually led to the discovery of the sixteen-factor model of personality (Cattell and Schuerger 2003).

At the time that Cattell entered the field of Psychology, it was limited in its scope as a

science – although physiological and experimental psychologists were utilizing the scientific method to conduct their research, personality theorists showed little inclination to using the approach and relied primarily on the postulations of philosophers (Cattell and Schuerger 2003). Having come from a strong scientific background, however, Cattell was convinced that Psychology could become as exact and rigorous a science as chemistry and physics (Sherrill 2010). His primary interest was in the application of factor analysis to the study of the human personality. He believed that for psychology to advance as a science, it needed measurement techniques for personality. Accordingly, he theorized that through factor analysis, all of the traits that constitute the human personality can be scientifically discovered and measured (Cattell and Mead 2008).

Cattell began his personality research with the work of Gordon Allport and Henry Odbert (1936). Allport and Odbert were the first to make a comprehensive attempt at developing a framework to describe personality using traits. Influenced by the lexical hypothesis – the assertion that the English language is a useful source of information about the existence of personality traits, as all aspects of the human personality that are or have been of importance are already recorded in the substance of language – they examined the Webster’s 1925 New International Dictionary and generated a list of 17, 953 personality-relevant terms (Cattell 1943; Hewstone et al. 2005). It is this list, referred to as the “trait sphere,” that provided the foundation for Cattell’s pioneering work on identifying the basic structure of the human personality.

With the task of examining the dictionary for all personality-related terms being completed, Cattell’s first mission was to reduce the huge list to a more manageable number. Initially, he collated the list to 4,500 words descriptive of personality characteristics (Cattell 1943). He then refined this list to a set of variables brief enough to facilitate factor analysis, by two successive processes. First, in an effort to eliminate redundancy, the list was submitted to a semantic clustering procedure, whereby, two research assistants, one of whom was a literature student and the other a

psychologist, independently classified the list of traits into groups of synonyms. As a part of this step, antonyms were also included in a synonym group. This process was successful in condensing the original 4,500 terms into 160 categories, and to make the list as complete as possible, he added a few “interest” and “ability” terms found in the psychological literature, bringing the final list to 171 items (Cattell 1943; Tucker 2009). As this list was still too large for factor analysis, Cattell attempted to further reduce it by using an empirical clustering procedure. To facilitate this step, he collected ratings on the 171 traits from 100 subjects, each of whom was rated by a close acquaintance. The subjects were judged on whether they were above or below average on each trait, and if the trait was bipolar, which of the pair best described them, e.g., whether irritable or good-tempered (Cattell 1943; John et al. 2008; Tucker 2009). Upon computing and inspecting the correlation coefficient between every pair of traits, Cattell (1943) found a total of 67 clusters among the variables. As a result of lack of funding for the factor analysis of all 67 clusters, Cattell was forced to further reduce the list to a smaller set. Accordingly, he condensed it to a total of 35 clusters by (a) eliminating some of the smaller, less reliable clusters, (b) using a single “nuclear” cluster in cases where two or three clusters extensively overlapped, and (c) from the remaining clusters, using only those that had already been confirmed by other researchers (Cattell 1945).

Following, Cattell and his colleagues then proceeded to conduct a sequence of factor analytic studies to search for the major dimensions of personality (John 1990). In conducting these studies, he utilized three different methods of assessment, which he labelled: L-data (life records), Q-data (questionnaires), and T-data (test). L-data refers to information collected via observers’ ratings of an individual’s behavior in natural settings (Schultz and Schultz 2005). Q-data is derived from questionnaires, which require participants to answer direct questions about themselves based on their own observation and introspection (Liebert and Spiegler 1970). T-data, on the other hand, is information that is gathered in situations in which the examinees are unaware of what aspects of their

behavior are being evaluated (Schultz and Schultz 2005). Cattell argued that to capture the full complexity of the human personality, these three sources of data must be integrated (Liebert and Spiegler 1970).

For his first study, Cattell collected L-data ratings on the 35 personality variables from a population of 208 typical adult men of diverse occupations. Factor analysis of the data yielded a total of 12 factors (Cattell 1945). Cattell then attempted to determine whether these factors were in fact fundamental personality traits. In the second study, he obtained L-data from 133 male students averaging 20 years of age. Analysis of this data yielded 11 factors, nine of which Cattell (1947) reported were identical to those of the earlier study, and one of which was new. Soon thereafter, Cattell (1948) conducted a third factorial study with a sample of 240 undergraduate female students averaging 20.7 years of age. In this study, he again found a total of 11 factors, 10 of which he claimed were unmistakably the same as those found in the previous two studies. In sum, a total of 14 factors were found, with seven of the factors appearing in all three studies, six appearing in two of them, and one appearing only once (Tucker 2009). In naming the factors, Cattell assigned them the letters *A* through *N*.

In an effort to determine whether these factors, which were all obtained from L-data, would occur with different types of data, Cattell subsequently conducted a series of studies using T-data and Q-data (Tucker 2009). He extracted a total of 11 factors from the T-data study and 19 factors from the Q-data study. It is the factors discovered in these studies as well as those from the previous three L-data studies that resulted in the development of the sixteen-factor model of personality. Specifically, the first 11 of the 16 factors, which were labelled *A* through *N*, with *D*, *J*, and *K* omitted, were selected from the 14 that emerged from the L-data studies; the 12th factor labelled *O* “appeared out of the blue” (Tucker 2009, p. 39); and the final 4 factors, labelled *Q_I* through *Q₄*, were selected from the 19 that emerged in the Q-data study. Cattell presented these factors in bipolar form using words that we are likely to

use in our everyday lives to describe others (Table 1).

Cattell’s sixteen-factor model of personality has been subjected to criticisms. A major criticism of the sixteen-factor model of personality has been the failure to replicate its factor structure in past research. For example, Tupes and Christal (1992) reanalyzed intercorrelations among ratings on the 35 trait clusters identified by Cattell using eight different samples and found there to be five recurrent personality factors in each dataset except one.

In another study comprising 491 undergraduate university students, Barrett and Kline (1982) using form A of the Sixteen Personality Factor (16PF) Questionnaire conducted a series of analyses: item analysis, factor analysis using principal component and image analyses, and radial parceling, in an effort to replicate the factor structure of the sixteen-factor model of personality. Despite using a methodology that was quite similar to that of Cattell, the 16 factors did not emerge as they expected. Instead, their findings suggested that only “between seven and nine factors will have both satisfactory coefficient alphas and factor validities” (Barrett and Kline 1982, p. 269). Eysenck (1991), in his review of numerous studies that made similar attempts to replicate the factor structure of the sixteen-factor model of personality, has purported that even those researchers who have been trained by Cattell and were thoroughly familiar with his methods and procedures were also unsuccessful in finding a solution that was in any way identical to that of Cattell’s sixteen-factor model. While these attempts to replicate Cattell’s factor structure in no way solved the “number of factors” problem, their findings do support the argument that the sixteen-factor model has been overfactored by Cattell (Eysenck 1991; Howarth 1976).

Furthermore, Cattell’s development of the sixteen-factor model was not without its methodological flaws (Howarth 1976; John 1990; Tucker 2009). Despite his emphasis on constructing a model based on precise measurement, his work was filled with ambiguities and subjectivity (Ryckman 2012). For instance, in preparing

Sixteen-Factor Model of Personality, The, Table 1 Cattell's Sixteen Personality Factors

Low score description	Factors	High score description
Emotionally distant	Warmth (A)	Warm-hearted
Less intelligent	Reasoning (B)	More intelligent
Affected by feelings	Emotional stability (C)	Emotionally stable
Submissive	Dominance (E)	Assertive
Serious	Liveliness (F)	Happy-go-lucky
Expedient	Rule consciousness (G)	Conscientious
Shy	Social boldness (H)	Adventurous
Tough-minded	Sensitivity (I)	Tender-minded
Trusting	Vigilance (L)	Suspicious
Practical	Abstractedness (M)	Imaginative
Forthright	Privateness (N)	Nondisclosing
Self-assured	Apprehension (O)	Self-reproaching
Conservative	Openness to change (Q1)	Open to change
Group-dependant	Self-reliance (Q2)	Self-reliant
Undisciplined	Perfectionism (Q3)	Perfectionistic
Relaxed	Tension (Q4)	Tense

Allport and Odbert's list for factor analysis, Cattell utilized his literature reviews to revise the list, which was originally designed to represent trait content in the dictionary. Additionally, the semantic and empirical reduction methods that he utilized to refine the list relied on human judgment (John 1990). Moreover, the methods which he used to further reduce the list from 67 to 35 clusters were vague (Tucker 2009). Consequently, critics (e.g., John 1990) have maintained that Cattell's list of variables and factors represent those that he himself decided were the most important.

In addition, Cattell has been criticized for using a rather relaxed criterion in developing his system, having included salients with loadings even lower than 0.20. Howarth (1976) suggested that if Cattell had utilized the standard accepted criterion of 0.40 for a salient, only three factors would have approached the criterion, and even if he had accepted the relaxed criterion of 0.35, no more than five factors would have qualified. Critics have therefore concluded that there were never sixteen factors as Cattell extracted more factors than was acceptable (Digman 1996). Nevertheless, Cattell's innovative work on constructing a personality system has been credited for introducing and refining the quantitative approach to the study of personality (Shergill 2010).

Development and Validity of the Sixteen-Factor Personality Questionnaire (16PF)

To assess the 16 personality factors that he discovered, Cattell constructed the 16PF. Since its publication in 1949, the instrument has undergone four major revisions, with the most recent revision being the 16PF Fifth Edition (16PF-5) (Conn and Rieke 1994). The 16PF-5 was developed using the best items from the five previous forms of the 16PF plus new items written by the test authors and 16PF experts (Cattell and Mead 2008). In writing and selecting these items, a special effort was made to update and simplify the language; improve their psychometric characteristics; avoid gender, cultural, and ethnic bias content; and to make content cross-culturally translatable (Conn and Rieke 1994). Comprised of 185 multiple choice items that were written at a fifth grade reading level, the 16PF-5 provides scores on 16 primary personality scales and five global scales (Cattell and Schuerger 2003). Being one of the leading five personality test instruments in use, its validity has been thoroughly examined in the literature. In the following sections, numerous sources of evidence will be reviewed to demonstrate the validity of the 16PF.

Construct Validity The construct validity of the 16PF has been investigated by means of correlating its scales with that of other measures of normal adult personality. Accordingly, the 16PF has demonstrated its construct validity through its correlations with measures such as the California Psychological Inventory (CPI), the Myers-Briggs Type Indicator (MBTI), the NEO-PI-R, and the Coopersmith Self-Esteem Inventory (Cattell and Mead 2008). Confirmation of its validity is noted in the study of Karson and Pool (1957). In their investigation of the relationship between the 16PF Questionnaire and three other measures, the Minnesota Multiphasic Personality Inventory (MMPI), Wechsler Adult Intelligence Scale (WAIS), and the Wechsler-Bellevue Intelligence Scale, Form I (W-B I), the researchers found that while their results showed no significant correlations between the 16PF and the two intelligence measures, there was a large number of significant correlations between the 16PF and the MMPI scales. These results, which demonstrate the 16PF discriminant and convergent validity, respectively, provide support for the construct validity of the 16PFs as personality factors.

Similarly, Conn and Rieke (1994) carried out extensive research into the construct validity of the 16PF by comparing the 16PF5, to four other measures of personality: the NEO-PI-R, MBTI, California Psychological Inventory (CPI), and the Personality Research Form-Form E (PRF). In general, they found that their results consistently validated the meanings of the 16PF scales. Eicke et al. (1993), who in their comparative study of the MBTI and the 16PF, found the two instruments to be highly correlated, with the extraversion/introversion dimension yielding the highest correlations, and more recently, Rossier et al. (2004), who examined the relationship between the 16PF and Costa and McCrae's NEO-PI-R, provide additional support for the 16PF's construct validity.

Criterion Validity The criterion validity of the 16PF has been consistently demonstrated via its ability to predict various criterion scores. Studies have found the 16PF to be successful in predicting numerous criteria, for example, leadership

effectiveness (Hetland and Sandal 2003), marital compatibility (Russell 1995), academic achievement (Holland 1960), effects of group therapy (Wang and Li 2003), job satisfaction (Lounsbury et al. 2004), suicidal tendencies (Ferrer and Kirchner 2015), job training success (Tango and Kolodinsky 2004), job performance in a wide range of occupations (Arnold 1997; Csoka 1993), law-breaking tendencies (Low et al. 2004), and marital satisfaction (Cattell and Nesselroade 1967; Karol and Russell 1995), as well as hundreds of occupational profiles (Schuerger and Watterson 1998).

More specifically, within the educational setting, Barton et al. (1971) found the 16PF scales: warmth (A+), rule consciousness (G+), social boldness (H+), apprehension (O-), perfectionism (Q3+), and intelligence (B+) to be significant predictors of high achievers, with the intelligence scale (B) being the strongest predictor. In the occupational setting, on the other hand, Bernardin (1977) found the 16PF conscientiousness (G) and anxiety (Q) scales to be valid predictors of organizational withdrawal behaviors, namely, absenteeism and turnover. In addition, Jones et al. (1976), in investigating the overall relationship between the 16PF and the work motivation inventory (WMI; a measure of Maslow's needs) through canonical correlation analysis, found that the 16PF correlated significantly and predictably with the WMI.

Although a substantial amount of evidence has accumulated in support of the 16PF's criterion validity, it does have its limitation relative to its predictive value (Rivera 1996). Evidence of this is noted in the study of Williams et al. (1972). In their examination of the validity of the 16PF and the MMPI in clinical settings, they assessed the practical utility of the instruments as diagnostic tools by investigating their ability to distinguish between clinical diagnostic groups. Their findings revealed that in discriminating among 13 diagnostic groups, the MMPI performed statistically better than the 16PF. While five of the MMPI scales were found to have a significant relationship with the 13 diagnostic groups, no overall significance were found among them and the 16PF scales. The

16PF's inability to discriminate reliably among psychiatric diagnostic groups exhibits its limitation for use in mental health settings (Williams et al. 1972).

Incremental Validity The 16PF has also demonstrated incremental validity. Barton and Dreger (1986), for instance, in using the 16PF and the MMPI to predict marital roles, found evidence indicating that while the MMPI was a better predictor of marital roles than the 16PF, when both measures are used, prediction can be enhanced. Accordingly, while test users have been advised against using the 16PF as an alternative for the MMPI (Love and DeArmond 2007), it has been recommended that it be used as a complement (Strack et al. 2008).

More recent evidence of the 16PF's incremental validity is noted in the study of Delamatre and Schuenger (1992). They found that when used in combination with the Millon Clinical Multiaxial Inventory, the 16PF was more useful in diagnosing personality disorders. Moreover, Love and DeArmond (2007), in assessing the validity of assessment center (AC) ratings and the 16PF scores in predicting the promotion of police sergeants, found evidence suggesting that when combined with other job-related measures (e.g., AC scores), the 16PF offers incremental validity in predicting on-the-job performance.

Cross-Cultural Validity Research on the cross-cultural applicability of the 16PF has yielded mixed results. While some investigators have found the 16PF factor structure to be robust across numerous cultures (e.g., American, British, French, German, Italian, Japanese, and Indian), suggesting that people are much the same everywhere (Vaughan and Cattell 1976), others have found evidence leading them to question the cross-cultural replicability of the 16PF.

The first persons to systematically investigate the cross-cultural validity of the 16PF were Cattell and his colleagues (Cattell et al. 1961; Cattell and Warburton 1961). With the use of samples which varied in language, education, and culture, they examined the extent to which the 16PF

personality structure was similar and different from culture to culture. For instance, Cattell and Warburton (1961) examined the second-order stability of the 16PF across British and American samples, while Tsujioka and Cattell (1965) studied it with subjects from the United States and Japan. In essence, their findings indicated cross-cultural stability of the 16PF's higher- and lower-order structure (Ben-Porath 1990). Based on their results, which showed that some of the factors, such as intelligence (B), dominance (E), surgency (F), superego (G), parmia (H), etc., demonstrated no significant differences across cultures, Cattell and his colleagues reported that at the primary factor level, a very high degree of similarity exists among countries and cultures as it relates to their personality structure (Cattell et al. 1973; Tsujioka and Cattell 1965).

Nevertheless, numerous researchers have found notable and significant cross-cultural differences in the factor structure of the 16PF. For example, using data obtained from normal males and females of British descent, Philip (1972) tried to replicate Cattell's finding of a similar second-order structure for the 16PF in the United States and England. He was however unable to do so, finding instead that the cross-cultural stability of factors could not be substantiated for all factors. A later study by Golden (1978) reported similar results. In investigating whether the underlying personality structure was equivalent across cultures using 100 Americans of European ancestry (AEA) and 117 Americans of Japanese ancestry (AJA), Golden (1978) found that the factor structure for the Japanese varied significantly from that of the Europeans. He reported that while the AEAs showed a second-order factor pattern that was almost identical to that found by Cattell, the AJAs' factor pattern was significantly discrepant from both Cattell's results and the AEA results in this study.

In sum, the research findings indicate that the cross-cultural replicability of the 16PF factor structure is contentious. Thus, when using the 16PF cross-culturally, replicatory factor analysis should first be conducted before results are interpreted (Ben-Porath 1990).

Use and Application of the Sixteen Personality Factors

The sixteen-factor model of personality has been proven by research to be invaluable to many professionals. As a result of its ability to provide rich, comprehensive, objective information on an individual's personality makeup in an efficient manner, it has been used extensively in a wide variety of applied settings, including clinical, counseling, and industrial/organizational settings. Evidence of its utility stretches back to over half a century.

Clinical and Counselling Settings Although the 16PF was specifically developed to measure normal adult personality and is not to be used for measuring pathology or making clinical diagnosis, many clinicians have found it to be useful in their practice as a supplemental tool. Its ability to quickly and objectively provide professionals with an understanding of their clients' overall personality functioning, including their basic interpersonal, experiential, emotional, and motivational dynamics, has been found to be instrumental, especially in time-limited settings (Cattell 2001, 2004; Cattell and Schuerger 2003). As a result of this function, clinicians are able to place their clients' presenting problem in the context of their whole personality, which in turn helps them to make diagnostic decisions and determine the type of treatment plan or therapeutic intervention that is best suited for their clients (Cattell 2001; Rivera 1996). In addition, it allows clinicians to anticipate the course of therapy by equipping them with useful clinical information regarding individuals' capacity for insight and introspection, sensitivity to power dynamics in relationships, difficulties in establishing trust and rapport, and capacity for successful treatment termination (Cattell and Mead 2008). Moreover, as the 16PF scores can be openly and easily discussed with clients, clinicians have also found the instrument to be useful in stimulating interaction, building rapport, and facilitating an early alliance in the therapeutic process (Cattell 2004).

The 16PF is also of much value to the counselling process. It has been found to be effective in facilitating the therapeutic dialogue between the

counsellor and client; determining clients' motivation for the counselling process; gaining an overall understanding of clients, including their strengths and weaknesses; identifying areas that need in-depth exploration; anticipating potential blocks and resistances that are likely to hinder clients' self-awareness, progress, and free communication; and selecting the most optimal therapeutic technique for clients (Cattell and Schuerger 2003; Schuerger 1992). Being a measure of general personality characteristics, it has been extensively used in career counselling settings, particularly to help clients gain greater awareness of their strengths and weaknesses, generate hypotheses about client's fit to various kinds of occupations, and plan self-development goals and effective career paths (Cattell and Mead 2008; Cattell and Schuerger 2003).

Past research findings have also shown the 16PF to be useful in marital and couples counselling (Karol and Russell 1995). By using it in the counselling process, practitioners have found it to be valuable in gaining insight into how couples' unique traits might combine and interact; opening communication between couples; enhancing couples' involvement in the counselling process; helping couples gain greater self-awareness as well as insight into their partner's basic personality traits in a positive and objective manner; uncovering problem areas early in the counselling process, which will otherwise be left unidentified until after many sessions; prioritizing problem areas; reducing the confusion and anxiety that is usually connected with the experience of self-revelation; and reducing the emotional defensiveness couples tend to display in immediately addressing their presenting problem (Cattell and Schuerger 2003; Jones 1976; Schultz and Schultz 2005). It has also been instrumental in lowering the overall therapeutic costs by reducing the amount of time therapists need to get to know couples (Cattell and Schuerger 2003). Despite its usefulness in therapeutic settings, however, the 16PF instrument does not provide all the information needed for psychological evaluations. Thus, 16PF findings cannot be used as a replacement of clinicians' interview and evaluation, but rather as a supplement (Cattell 2001).

Industrial/Organizational Settings The 16PF has also had a long history of use in industrial/organizational settings. It has been shown to be invaluable in a variety of organizational functions, including employee selection, development, promotion, coaching, training, outplacement, team building, and retirement counselling (Cattell and Mead 2008). Its utility in generating and predicting a wide range of occupational profiles and prediction equations has been especially useful to employers. With the availability of hundreds of 16PF profiles for a wide variety of occupations (e.g., police officers, computer scientists, research personnel, firefighters, customer service representatives, ministers/priests, and counsellors), employers have been able to screen prospective and current employees to better determine which individual is best suited for a particular role, and thereby enhance person-job fit (Cattell and Mead 2008). For instance, past research have found effective sales people to be high on extraversion and its traits of warmth, social boldness, liveliness, and group orientation; low on anxiety and its sub-traits of apprehensiveness (self-assured), vigilance (trusting); high on emotional stability; and somewhat above average on rule consciousness, reasoning ability, and independence and its traits of social boldness and dominance (Cattell and Mead 2008). Accordingly, by using individuals' 16PF scores in conjunction with this profile, employers are better able to determine which candidate will likely be the most effective in performing the duties of the sales position.

Research also shows the 16PF to be instrumental in predicting many important work dimensions (e.g., Arnold 1997; Bernardin 1977). By collecting the 16PF scores of the workforce, employers have the ability to predict their future work behaviors, inclusive of creativity, absenteeism, job performance, turnover, leadership styles, job satisfaction, and job training success (Cattell and Mead 2008). The instrument has been found to be especially predictive of performance in three occupational areas: manager-executive, customer service, and protective services (police, security guard). The 16PF dimensions emotional stability (C+), social boldness (H+), vigilance (L-), apprehension (O-), and openness to new ideas and changes (Q1+) are noted to be predictive of

effective managers and executives; that of reasoning (B+), emotional stability (C+), dominance (E-), liveliness (F-), sensitivity (I-), and abstractedness (M-) are highly predictive of capable customer service personnel; and the dimensions warmth (A-), liveliness (F+), vigilance (L-), apprehension (O-), and self-reliance (Q2+) have demonstrated their ability to identify competent protective service personnel (Cattell and Schuerger 2003). Its ability to do this is also of much value to employers as it enables them to build an effective workforce.

The Sixteen-Factor and Five-Factor Models of Personality

As brilliant and pioneering as Cattell's work was, the sixteen-factor model of personality never received the broad academic acceptance that Cattell would have anticipated (Cervone and Pervin 2016). Consistent with Eysenck (1991), there were "too many criticisms, too many failures to replicate, [and] too many psychometric faults to continue to use the system" (p. 777). Consequently, the past few decades have seen increasing interest in the five-factor model of personality (Digman 1990). The five-factor model is a hierarchical organization of traits that provides a global description of personality in terms of five broad dimensions: openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism (McCrae and John 1992). Although it is most commonly associated with McCrae and Costa (1985), it initially emerged as a result of several unsuccessful attempts by numerous personality researchers (e.g., Tupes and Christal 1992) to replicate the factor structure of Cattell's sixteen-factor model.

Today, the five-factor model stands as the most prevalent and influential taxonomy for conceptualizing personality (Matz et al. 2016). Having shown robustness across different languages, theoretical perspectives, instruments, and different cultures, using ratings obtained from different sources and with a variety of samples (Barrick and Mount 1991), it dominates the sixteen-factor model in contemporary personality science. Nonetheless, the sixteen-factor model continues

to be a staple in personality assessment. It was Cattell's system and factor analytic techniques that paved the way for the development of the five-factor model (Matz et al. 2016). In fact, numerous studies have demonstrated that, when factored, Cattell's Sixteen-Factor system can be reduced to a smaller number of second-order factors which in essence resembles the five-factor model (Weiner and Craighead 2010). Krug and Johns (1986), in their attempt to cross validate the second-order structure of Cattell's 16PF scales, using a large sample of 17, 381 normal males and females who differed across a range of ages, socioeconomic levels, education, geographic location, and ethnicity, found evidence which suggested that there are five important dimensions which underlies the basic model of the 16PF. Confirmation of this discovery was found in a study conducted by Noller et al. (1987) a year later. Upon factor analyzing data derived from the 16PF, the Comrey Personality Scales, and the Eysenck Personality Inventory from a sample of 669 Australians, Noller et al. (1987) found that five factors emerged, which they reported were identical to the five robust factors of personality found before in previous studies. There were clear relations between these five factors and the second-order factors of the 16PF, which according to the authors, suggested that the 16PF scales can be redesigned to cover fewer constructs at the primary factor level. Boyle's (1989) replication of Noller et al.'s (1987) study provides strong support for these findings, as well as that of Krug and Johns (1986). Even Cattell reported originally finding five global factors when he factor analyzed his 16 primary traits to determine the underlying organizing influences among them (Cattell 2004).

Data obtained from comparing the 16PF scales with those of the NEO-PI-R showed fairly good convergence between the Sixteen-Factor and the five-factor models. The extraversion scales of the two measures correlated well with each other (0.65); the 16PF anxiety scale correlated with the NEO-PI-R neuroticism scale (0.75); tough-mindedness correlated with openness (0.56); self-control with conscientiousness (0.66); and independence correlated with both agreeableness (0.42) and extraversion (0.36) (Matthews et al.

2009). Rossier et al. (2004), who compared the five domains of the NEO-PI-R with the primary factors of the 16PF5, found that the neuroticism domain correlated with the primary factors emotional stability (-0.75), tension (0.49), and apprehension (0.61); the extraversion domain correlated with liveliness (0.60) and social boldness (0.57); the openness to experience domain correlated with abstractedness (0.44) and openness to change (0.59); the agreeableness domain correlated with vigilance (-0.45) and the conscientiousness domain with abstractedness (-0.48) and perfectionism (0.69). Thus, despite its current inferiority relative to the five-factor model, the sixteen-factor model remains at the center of contemporary personality assessment (Weiner and Craighead 2010).

Conclusion

The emergence of the sixteen-factor model of personality has no doubt made a significant contribution to the field of personality psychology. Being the first personality model to have been developed using a systematic scientific methodology, it single-handedly changed the way Psychologists approached the study of personality and laid the foundation for the development of later trait models, such as the five-factor model. Moreover, the sixteen-factor model of personality has generated extensive research and has been used in various contexts. It has been shown to be valuable to the therapeutic process in clinical and counselling settings and to a variety of organizational functions (e.g., employee selection) in industrial/organizational settings. Nevertheless, many personality researchers have deemed the sixteen-factor model inadequate. As it relates to the methodology employed by Cattell to create it, critics have found it to be subjective and ambiguous, arguing that Cattell's list of variables and factors represent those he decided were the most important. Additionally, due to the inability of numerous scholars to replicate the factor structure of Cattell's system, critics have concluded that the model has been overfactored. Consequently, personality researchers have since turned their attention to the five-factor model of personality. While the five-factor

model remains the most extensively used and widely accepted model of personality to date, the sixteen-factor model, as a result of its strong psychometric roots, continues to be of significant influence in contemporary personality science.

Cross-References

- ▶ [Big-Five Model](#)
- ▶ [Lexical Approach](#)

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Skills

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Synonyms

Competence; Expertise; Mastery; Talent

Definition

Skills refer to a broad range of competent or excellent task-related behaviors that are acquired through knowledge or practice.

Introduction

Skills are distinguished from *abilities*, which are talents, aptitude, or some capacity to be proficient in certain behaviors. Abilities are a potential, while skills are acquired and developed through experience and practice. There are several domains of human skills, including three broad categories of physical, cognitive, and social skills.

Physical Skills

Physical skills include developing gross motor skills, such as picking up large objects, fine motor skills like drawing or sewing, or balance and coordination skills, such as walking or riding a bicycle. The development of physical skills in children begins very early when infants learn to control their movements, grasp objects, and sit upright. Physical skills, like all skills, can be developed through practice and learned through trial and error or mimicry (imitating someone performing the physical behavior or what is called *observational learning*).

A good example of the development of physical skills can be seen in a child's acquisition of athletic skills. Hand-eye coordination develops through hitting or catching a ball. Over time, the child develops greater balance, coordination, and finer motor skills, such as dribbling a basketball or shooting an arrow. Physical skills are also involved in the execution of work tasks, household chores, and hobbies – anything that involves physical activity.

Cognitive Skills

Cognitive skills include a broad range of competencies in learned mental processing. Problem solving, acquisition, and use of language (both spoken and written), solving mathematical equations, and creative thinking are all examples of cognitive skills. Cognitive skills that are used to acquire domains of knowledge, such as the primary subjects taught in schools (e.g., mathematics, science, language), are referred to as *learning skills* (Palincsar and Collins 2000). Learning skills are sometimes also referred to as *academic skills*.

The acquisition of academic skills in the classroom is governed by a number of learning theories and concepts. For example, academic skills are positively reinforced through teacher and parent appreciation, good letter grades on report cards, and the like. Students not only acquire skills in particular academic subjects, such as mathematics, but they also develop general learning skills. In other words, they learn how to learn, through memorization, practice and rehearsal, and developing their own cognitive learning strategies.

Although development of cognitive skills is the main focus of formal education, cognitive skills are also acquired outside of the classroom, through self-directed learning, which can include reading about particular subjects, watching other media (e.g., television, Internet), or through direct experience (e.g., observational and “hands-on” learning). In the workplace, cognitive skills are developed both formally, through employee training programs, and informally (i.e., on-the-job training; Noe 2010).

Social Skills

Social skills consist of a vast array of different competencies in communicating with others, developing and maintaining social relationships, and interacting in complex groups and societies. Unlike many cognitive skills, social skills are rarely taught in formal educational settings. Instead, social skills are developed through interaction with others, trial and error, social learning/modeling, and experience.

One model suggests that the foundation of all social skills is interpersonal communication and skill in sending, receiving, and regulating verbal and nonverbal messages between and among people (Riggio 1986). Skill in nonverbal communication involves being able to convey emotions to others through facial expressions, posture, tone of voice, and other nonverbal behaviors and conversely to be able to read and interpret others’ nonverbal messages. Skill in nonverbal communication also includes appropriately monitoring and controlling the expression of negative emotional outbursts and other unwanted communication displays.

Verbal skills, such as conversational skills and public speaking, are also part of the domain of social skills. In addition, social skills include one’s knowledge of social roles, social norms, and social conventions, in order to know how to behave appropriately in a variety of social situations. Social skills are also particularly important in the workplace where employees work in teams, in customer service, or in management and leadership positions. Managers and leaders are expected to have good “people skills” – another term for social skills.

The Relationship of Skills to Personality

Personality is important because it is connected to human behavior. Skills are also linked to behavior and may be even more directly connected to behavior than are personality traits. One way to think about the relationship of personality to skills is that personality can drive or stimulate the kinds of skills that an individual works to develop. For example, the personality trait of extraversion might compel someone to be more active and outgoing in social settings. However, the extravert must develop and use social skills in order to connect with others and have successful social interactions. Friedman (1979) argues that skills may be an alternative to personality – viewing an individual’s psychological makeup as a conglomeration of various physical, cognitive, and social/interpersonal skills, rather than a composite of personality traits.

Conclusion

Individuals vary greatly in terms of their possession of skills in the physical, cognitive, and social domains. Understanding which skills an individual possesses can help predict the types of behaviors that the individual will engage in and the success of the individual in performing those behaviors.

Cross-References

- ▶ [Habits](#)
- ▶ [Observational Learning](#)
- ▶ [Performance Goals](#)
- ▶ [Social Intelligence](#)
- ▶ [Social Roles](#)

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Skin Conductance Response

► Skin Conductance Tests

Skin Conductance Tests

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Synonyms

Electrodermal activity (EDA); Electrodermal level (EDL); Electrodermal response (EDR); Galvanic skin response (GSR); Skin potential response; Skin conductance response; Skin resistance response; Psychophysiology

Definition

EDA refers to electrodermal phenomena associated with the skin that involves variation in the electrical properties of the skin (Handler et al. 2010). The tonic, baseline, level of skin conductance or resistance at any point is the EDL, whereas the EDR refers to the changes in the electrical properties of a person's skin. This is caused by the interaction between environmental events and an individual's psychological state leading to a skin potential or conductance response (Handler et al. 2010). GSR is an older term that is now replaced with EDA. Galvanic implies that the skin functions as a galvanic cell,

which involves the production of an electrical current from the interaction of dissimilar metals through a salt bridge. These processes are unrelated to how EDR is currently measured (Boucsein et al. 2012; Handler et al. 2010).

The skin potential response refers to the measurement of voltage between two electrodes when no external current is applied. It includes the electrical signals that originate with the physiology and endosomatic EDR (Boucsein et al. 2012). Whereas the skin conductance response changes in the skin's conduction of the signal can be measured in Siemens when a constant voltage is applied. The skin resistance response is measured under constant current systems and record responses in Ohms (Handler et al. 2010). Psychophysiology is the scientific study of the interactions between the mind and the body by examining physiological responses and their relation to the autonomic or central nervous system (Cacioppo et al. 2007).

Introduction

Historical Overview

Dubois-Reymond (1849) first observed that when human limbs are immersed in zinc sulfate, they could conduct electrical current from a contracted muscle to a relaxed limb. Dubois-Reymond attributed this electrical activity to the muscles and their innate properties. Later, Hermann and Luchsinger (1878) demonstrated that the strongest electrical effect occurred in the palms of the hands. Vigourous (1879) first observed and researched skin conductance in relation to psychological activity in emotionally distressed patients, and Féré (1888) demonstrated that skin can become a better conductor of electricity when emotional stimulation is presented, an effect that can be inhibited by drugs. Féré is also credited with the discovery of exosomatic EDR recordings. It was later established by Tarchanoff (1889) that changes in skin potential measurements are due to changes in sweat gland activity. Carl Jung (1919) took advantage of instruments which measure skin conductance and used them for the scientific study of emotional sensitivities of patients

to various lists of words. Richter (1929) is credited as one of the earliest investigators to propose that the skin's conductivity potential is caused by sweat gland activity and an epidermal mechanism. Advances in the twentieth century allowed for the development of polygraphs and computers to record skin conductivity and analyze data to help infer deception, specifically within the context of lying (Bouscein 1992; Handler et al. 2010).

Polygraph

EDR has been used to detect arousal and deception for almost a century (Handler et al. 2010). Polygraph testing involves measuring physiological responses such as skin conductivity among other physiological responses while a person is asked a series of questions. During a polygraph, a direct current is used to measure aspects of EDA. This test was produced under the belief that lying is associated with physiological arousal that could be differentiated when associated with nondeceptive questions. Though useful, this method has some drawbacks because many innocent subjects present heightened arousal to crime-related questions. A polygraph cannot differentiate between anxiety caused by dishonesty and anxiety caused by other factors. Additionally, many psychopathic individuals lack the emotional response associated with crime and consequently would not present arousal during polygraph testing (Handler et al. 2010).

Physiology

The skin helps maintain a constant body temperature by controlling heat loss. It regulates blood flow to areas near the surface to allow for cooling, and then the cooled blood is passed to lower-lying tissues. Sweating cools the surface of the skin by removing the latent heat when liquid water evaporates off the skin. The human skin contains both apocrine and eccrine exocrine sweat glands. Eccrine sweat glands are of interest when studying skin conductance. They cover most of the surface of the body and are most densely located in the palmar areas of the hands and feet (Fowles 1986). When the surrounding skin is adequately hydrated, discharge containing ions can move from the sweat glands through ducts and onto the surface of the

skin, increasing electrical conductance (Handler et al. 2010). Eccrine sweat glands are innervated by cholinergic neurons and are primarily influenced by changes in activity of the sympathetic nervous system as opposed to ambient temperature changes. These autonomic nervous system changes can occur as a result of a combination of cognitive, affective, and learning processes. Sweat has many functions such as thermoregulation, moisture, and plasticity among many others which are evolutionarily adaptive when anticipating stressful situations. For example, in anticipation of a stressful event, vasoconstriction occurs, increasing systemic blood pressure. This in turn increases muscle perfusion but decreases blood flow to the skin's surface, thus decreasing thermal regulation. Evaporative sweating could potentially compensate for this rise in body temperature by increasing heat loss prior to an upcoming burst of physical activity (Handler et al. 2010).

Skin Conductance Models

The resistance model for EDA describes the skin as part of a circuit in which resistance and conductance are a function of skin hydration and sweat gland activity. In the resistance model, the sweat glands act as resistors wired in parallel, and changes in EDA are a function of the number of active sweat glands. Sweat glands release sodium and chloride electrolytes, filling the sweat ducts and increasing corneal hydration, leading to reduced resistance and increased conductivity of the skin (Edelberg 1972). No single model completely explains the psychological basis of the changes in the electrical properties of the skin. In the capacitance model for EDA, cell membranes or collections of cells are thought to store their electrical potentials like capacitors wired in parallel. In this model, cells release their potential energy through a process called depolarization, which occurs when the cells are stimulated neurologically. Edelberg suggested that skin capacitance may play an important role in phasic EDRs. Both the resistance and the capacitance models involve the interface between the sweat glands and the sympathetic division of the autonomic nervous system (Edelberg 1972).

Ohm's Law

The relationships between current, voltage, and resistance are described using Ohm's law. Ohm's law states that $V = I \times R$, which means that the amount of voltage in a circuit is equal to the electrical current multiplied by the resistance of the circuit. The three terms include volts (unit of electromotive force, volts), current (quantity of electrical current, ampere), and resistance (degree to which a substance in the circuit will resist the conduction of an electrical current, Ohm). Siemens is the unit of measurement for conductance; one unit is equivalent to an ampere per volt ($S = I/V$) and the inverse of resistance ($S = 1/R$) (Shedd and Hershey 1913). If a constant current is applied, changes in voltage can be measured, and they are directly proportional to changes in resistance (*skin resistance response*). If a constant voltage is held, current can be measured which is proportional to conductance (*skin conductance response*) (Handler et al. 2010). Typically communicated in terms of conductance units, a lower limit of normal skin conductance is approximately 2 μ Siemens, while an upper limit of skin conductance is approximately 20 μ Siemens (Venables and Christie 1980).

Conclusion

Brief Overview of Skin Conductance

Skin conductance is typically measured by passing a small current through a pair of electrodes placed at the surface of the skin that conduct a constant voltage. The current varies with skin conductance, and this is typically measured in μ Siemens. During skin conductance tests, event-related skin conductance responses that are a result of emotional arousal either to a positive or negative stimulus are usually of interest.

Potential Issues

It is possible to infer the degree of arousal using skin conductance tests, but not which emotion elicits the response. It is most beneficial to observe several physiological responses when trying to infer emotion (Picard et al. 2014). Additionally, there are many factors that affect skin conductance responses. These include drugs and medications

that mimic the actions of acetylcholine or are cholinergic agonists, beta-blockers which act on the central nervous system and exhibit anxiolytic effects or benzodiazepines. Factors such as temperature, age, race, and gender also affect EDA, and therefore when comparing skin conductance responses between different people, it is important to control for these various factors.

Cross-References

- ▶ Jung, Carl
- ▶ Stimulus

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Skin Potential Response

- ▶ [Skin Conductance Tests](#)

Skin Resistance Response

- ▶ [Skin Conductance Tests](#)

Skinner, B. F.

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Synonyms

[Burrhus Frederic Skinner](#); [Father of operant conditioning](#)

Definition

B. F. Skinner was prominent American psychologist and behaviorist, whose area of study focused on operant conditioning. B.F. Skinner discovered, termed, and disseminated many of the facets of modern day behavioral psychology.

Introduction

Next to John B. Watson, Burrhus Frederick (B. F.) Skinner was one of the most influential figures in behaviorism. Skinner designed laboratory techniques and conducted seminal experiments examining animal and human behavior. Laboratory techniques and experiments conducted by Skinner were paramount to the fields of learning and operant conditioning. Skinner's contributions eventually led to a general psychology theory, in which he further elaborated and refined behavioral psychology (Richelle 2001). Skinner's scientific examinations also influenced linguistics and education. A prolific researcher and writer, Skinner authored and published 21 books and 180 research articles. Skinner also wrote and expounded on social psychology and philosophy with such books as *Walden Two* and *Beyond Freedom and Dignity*. As many prolific and provocateurs of thought, Skinner's work was not without controversy within the field of psychology.

The remainder of this entry will delineate Skinner's accomplishments and influence on the fields of psychology, education, and applied behavior analysis. The following will be discussed: (1) brief history of Skinner's education and career, (2) Skinner's most prominent scientific findings, (3) the applications of Skinner's work, and (4) Skinner's contributions to psychology, education, and applied behavior analysis.

Background

Born to a middle class family in Susquehanna, Pennsylvania, Skinner started from humble beginnings. As a young boy, Skinner was curious and

inventive, seeking to solve every day problems he encountered. For example, Skinner designed a system that separated ripe berries from green berries to help support his business selling elderberries (Vargas n.d.).

In high school, Skinner dreamed of being a writer, inspired by the works of Ernest Hemmingway and Henry David Thoreau. He pursued a literary career while at Hamilton College, which was not necessarily an intellectual challenge for him. After a trip to Europe, Skinner turned to the study of psychology (Richelle 2001). While attending Hamilton College, Skinner was introduced to the works of Ivan Pavlov and John B. Watson. In particular, Pavlov's 1927 research on the conditioned reflexes of dogs interested Skinner. Furthermore, Skinner studied several philosophers and scientists, notably Charles Darwin and Ernst Mach. Darwin's theory of natural selection and Ernst Mach's *Science of Mechanics* (1883/1960) had notable and profound impacts on Skinner's theories of reinforcement and verbal behavior, respectively (Leao et al. 2016; Moxley 2005).

With his interest in psychology, Skinner applied to and was admitted to Harvard in 1928. In 1931, Skinner obtained his Ph.D., with a thesis focusing on the concept of a reflex. This was his first venture into the study of the causation of behavior, which he went on to study for the duration of his career (Richelle 2001).

Career

Skinner continued to study at Harvard for 5 years as a beneficiary of a fellowship affiliated with a physiology laboratory. Following this fellowship, Skinner was appointed as a professor at the University of Minnesota in 1936, where he began to study animal behavior in "Skinner Boxes" (discussed later in this entry). While at the University of Minnesota, he wrote his first book, *The Behavior of Organisms*, in 1938 which launched his career in the study of operant behavior (Richelle 2001). In 1945, Skinner became Chairman of the Department of Psychology at Indiana University and remained there for 3 years before returning to Harvard University where he was offered the Edgar Pierce Professorship in Psychology. Skinner remained at Harvard until he passed away in 1990 (Bjork 1997).

A majority of Skinner's research was conducted with animal subjects, as they were more accessible than human subjects. However, Skinner's interest was not in animal behavior but rather in the mechanics of behavior as a whole, with an emphasis in attempting to understand human behavior (Richelle 2001). This was evidenced by some of his seminal writings such as *Science and Human Behavior* and *Verbal Behavior* as well as his development of the application of operant conditioning (Skinner 1953).

Skinner was renowned as one of the most prolific and prominent psychologists of the century (Richelle 2001). He received some of the highest national awards possible for an American psychologist during his career. Despite other scientists harshly opposing some of his research and radical propositions, Skinner's work directly impacted the field of psychology in a significant manner. Behavioral psychology, applied behavior analysis, and the field of education (to name a few) have all been shaped the Skinner's seminal and groundbreaking work in operant conditioning.

Radical Behaviorism

Skinner viewed psychology as a branch of natural sciences (i.e., biology) rather than social sciences (Richelle 2001). This is evident in his most notable contribution to psychology, radical behaviorism. Skinner's approach to the study of behavior assumes a parsimonious view of behavior in which there is an assumption that observable behavior is a product of environmental events. Radical behaviorism rejected the distinction between covert and observable behavior. Rather, Skinner proposed that private events (e.g., thoughts) are indeed covert behavior that should not be assigned a different status in scientific analysis (Skinner 1957). As a result, Skinner's radical behaviorism stood in contrast to Watson's methodological behaviorism, in that covert behaviors were not rejected as the main objective of study. Rather, radical behaviorists resigned themselves to the study of observable behavior as they acknowledged they did not have direct access to covert behaviors (Richelle 2001).

Nevertheless, Skinner rejected mentalism as an aspect of the study of psychology. That is, Skinner did not believe that behavior should be explained by “pseudo-explanations” which offered explanations for psychological phenomena which could not truly be accounted for (e.g., people drink water *because* they are thirsty; Richelle 2001). In Skinner’s view, mentalism prevented science from identifying the true variables that caused behavior. He further posited that true variables that were responsible for behavior were present in an individual’s (i.e., the behavers) environment. Therefore, his theory of behavior was deterministic in nature. That is, he emphasized the role of environmental contingencies on behavior.

Skinner’s book, *Behavior of Organisms* (1938) introduced the scientific world to radical behaviorism and the experimental analysis of behavior, or behavior analysis. Here, Skinner described and provided empirical evidence that demonstrated that variables in the organisms’ environment influence observable behavior. Experiments described in *Behavior of Organisms* measured behavior through precise data collection under highly controlled experimental conditions.

Skinner’s interpretations of behavior were derived from observations and graphical analysis rather than psychological constructs. Skinner rejected the state of psychology of his time and proposed a new methodology to study behavior (Vargas n.d.). Skinner’s proposed method was the impetus for the experimental analysis of behavior and later applied behavior analysis. Skinner demonstrated behavior analytic methodology in *Behavior of Organisms* with several experiments involving lever-pressing activity in rats. These experiments relied on strict experimental control and reliable data collection of observable behavior (e.g., lever-pressing). Skinner’s methodology included observation, hypothesis development, testing, and induction based on data collection. Skinner wrote “deductions and the testing of hypotheses are actually subordinate processes in a descriptive science, which proceeds largely or wholly without hypotheses to the quantitative determination of the properties of behavior and through induction to the establishment of laws” (Skinner 1938; p. 437).

Operant Conditioning

Skinner’s experiments established the distinction of two classes of behavior: respondent and operant behavior. Respondent behaviors are behaviors that are elicited by a stimulus (LaBrot 2019) and are generally considered unlearned. Respondent behavior is largely influenced by the antecedent or the environmental event that precedes the behavior. Operant behaviors are behaviors that are evoked by exposure, often repeated exposure, to consequences following the behaviors occurrence. Operant behavior is influenced by both the antecedent event and the consequence following the response. For example, lever-pressing is not a respondent behavior but an operant behavior. Rats were taught to press the lever by successive consequences (e.g., food delivery) for lever-pressing. Each time the rat pressed the lever, lever-pressing behavior was strengthened by the reward of food. An organism can learn through reinforcement or punishment. Reinforcement and punishment are key concepts of learning theory (Catania 2013).

Reinforcement was not created by Skinner nor was the natural phenomenon discovered by Skinner. Reinforcement was observed, measured, and systematically studied by Skinner and his laboratory. Skinner defined reinforcement as an event that strengthens behavior or increases the probability of the behavior that was reinforced occurring again in the future (Skinner 1957). These responses are can either be positively reinforced or negatively reinforced.

Positive reinforcement describes an event in which a stimulus is applied to the organism’s environment following a target response (Skinner 1957). For example, when the availability of reinforcement is signaled by a sound, the pigeon may learn to engage in a particular response (i.e., pecking) to gain access to food. The delivery of food is dependent on a specific response. The effect of the food following a key peck very likely will increase the likelihood of the pigeon from pecking the key in the future.

Negative reinforcement describes an event in which a stimulus is removed from the environment following a target response (Skinner 1957). For example, a mild electric shock could be

applied to a pigeon. Following a specific response by the organism (i.e., lever press), the shock would be removed. The effect of removing the aversive stimulus will increase the likelihood of the organism engaging in the lever press in order to escape the aversive stimulus. In other words, negative reinforcement also increases the strength of responding in much the same way positive reinforcement. The concept of negative reinforcement must not be confused with punishment.

Skinner also used aversive stimuli such as a mild electric shock to demonstrate and study how punishment may affect how an animal responds. *Punishment* effects behavior by decreasing the likelihood of a particular response being emitted in the future by an organism. In much the same way as reinforcement, organism may learn to differentially respond through punishment (Dinsmoor 1952). However, unlike during conditions of reinforcement in which a specific response, or class of responses, result in the delivery of reinforcement; during conditions of punishment, the absence of responding result in the delivery of reinforcement. In other words, the organism will only experience punishment by engaging in the target response with a history of punishment. Therefore, if the organism no longer emits the response that occasions punishment, the organism will not experience the punishing stimulus. It is for this reason that punishment has the effect of decreasing responding by an organism (Skinner 1957). Similarly to reinforcement, there are two types of punishment, positive and negative.

Positive punishment describes the effect of responding when an aversive stimulus follows a particular response that results in the decreased probability that the response will be emitted again in the future (Skinner 1957). For example, a rat may have been taught a particular response (e.g., nose poke). Under certain conditions in which punishment is signaled (e.g., dark key), the rat may receive a mild shock that serves to reduce future responding. In humans, positive punishment may include a reprimand from a parent to child after a child swears or a driver receiving a ticket from exceeding the speed limit. The addition of these aversive events, or punishers (i.e., parental reprimand, speeding ticket), may

occasion a reduction in the response that occasioned the delivery of the punisher.

Negative punishment describes the effect of responding when a preferred, or pleasurable, stimulus is removed that results in the decreased probability of the response being emitted again in the future (Skinner 1957). For example, when signaled, an organism may engage in a target response (e.g., key peck) that results in the removal of food or water. The removal of stimuli that occasioned the key peck may likely reduce the probability of that response occurring again in the future. Negative punishment is a common procedure in homes and school, colloquially known as time-out (Azrin 1961). A time-out procedure generally includes the removal, or denied access, to preferred stimuli such as attention and toy items.

Reinforcement and punishment were of interest to Skinner and a phenomenon that aligned with Darwin's theory of natural selection (Skinner 1981). Skinner suggested that natural selection is similar to reinforcement in that selection of the species is done by consequences (Skinner 1981). In other words, it is the response of the organism that determines individual survival, and individual survival determines which species continues to adapt, evolve, and survive.

Schedules of Reinforcement and Punishment

Skinner was able to identify and study a variety of schedules of reinforcement through his experiments. There are two basic schedules: continuous and partial. A continuous schedule of reinforcement describes a schedule in which reinforcement occurs each time a particular response is emitted so long as reinforcement is available. For example, during a continuous schedule of reinforcement, each lever press omitted by a laboratory rat would result in either food or drink delivery. Although a rather simple schedule, a continuous schedule of reinforcement is incredibly rare in the "real world" (Cooper et al. 2007).

Partial schedules of reinforcement involve reinforcement of a particular response once the organism engages in a response that meets a specific criteria, either based on time (interval schedule) or by the responses omitted by a subject (ratio schedule). There are four types of partial

schedules. A fixed-interval schedule of reinforcement involves predetermination of a specific time criteria selected by the experimenter. Reinforcement is only available following a response at a particular point in time. A fixed-interval schedule typically results in a low-rate of responding in between the intervals of reinforcement. However, responding rapidly increases near and at the time in which reinforcement is delivered (Ferster and Skinner 1957). A variable-interval schedule is similar to the fixed-interval schedule except that the times in which reinforcement is available varies. The variance of reinforcement periods result in a varied rate of responding that approximates the frequency of reinforcement (Ferster and Skinner 1957).

Ratio schedules of reinforcement describe reinforcement schedules that require a target response by the subject. A target response in an operant chamber may include a lever press, nose poke, or another behavior of interest. Just as there are two types of interval schedules of reinforcement, there are two types of ratio schedules described by Ferster and Skinner. A fixed-ratio schedule of reinforcement requires that a subject omit a predetermined number of responses. Following the omission of a particular number of responses, reinforcement will be delivered. For example, on a fixed-ratio schedule of 2 (typically represented as an FR 2 schedule), the subject must omit two target responses to access reinforcement. A fixed-ratio schedule results in a steady-state of responding with breaks of responding between reinforcement periods (Cooper et al. 2007; Ferster and Skinner 1957).

A variable-ratio schedule of reinforcement requires a subject to omit a number of responses that vary across reinforcement periods. Following the final response of a particular schedule, the subject will access reinforcement. For example, an experimenter may choose to implement a variable-ratio schedule of 3 (VR 3). A VR 3 suggests that over the course of an experiment, or session, the median ratio of responses to access reinforcement is three. A schedule may require a subject to omit 3 responses in the first trial, but 1, 5, 3, 4, 2 responses in subsequent trials. A variable-ratio schedule not only results in a steady-state of

responding by the subject but also without breaks or paucity of responding between periods of reinforcement (Cooper et al. 2007). Unlike continuous schedules of reinforcement, variable-ratio reinforcement schedules are common in the “real world.”

Project Pigeon

During World War II, the USA was attempting to develop a more accurate missile system. At the time defense, airplanes were not equipped with guidance systems as they are today. In order to increase the accuracy of bombs and missiles, the National Defense Research Committee provided Skinner, among others, with funds to conduct research to improve the accuracy of weapons. Using operant conditioning, Skinner trained pigeons to identify specific targets. The pigeons were trained through operant conditioning to peck a screen which would then send signals to control stations. These signals were then sent to the missile to move toward the target.

Although Project Pigeon was relatively successful, the development of radar proved to be more reliable and more practical. Project Pigeon was funded for 1 year and cancelled in October of 1944 (TIME Magazine 1971). Although Project Pigeon was only funded for 1 year, it produced a litany of research on learning. Prior to Project Pigeon, Skinner primarily conducted research using rats and mice. However, following Project Pigeon, Skinner would continue to utilize pigeons in his laboratories. Skinner observed that the pigeon appeared to be more sensitive to the contingencies which improved the efficiency of his research. The work conducted by Skinner and Project Pigeon were later published in *The Cumulative Record*.

The Cumulative Recorder and Operant Conditioning Chamber

The *Cumulative Record* (1961) was a book that consisted of a collection of research studies that were conducted between 1930 and 1955. The

book was named after the data recording device that Skinner developed and used for all of his laboratory experiments. The cumulative recorder is an automated data collection recorder. The device uses a pen attached to a thin needle that gradually rolls across paper. The needle moves that pen slightly across the paper as a response is omitted by the subject. With each response, the ink on the paper begins to create distinctive curves that correspond to the cumulative number of responses an organism omits during a particular experiment. The cumulative recorder allowed for the experimenter to empirically display the results of their study using a graphical display of data rather than descriptions of behavior or the use of statistical analyses.

For example, a steep curve would indicate that the subject continued to omit responses during a particular phase of an experiment. A gradual curve would indicate that the subject omitted responses but not at a high-rate compared to a steep curve. Finally, a plateaued curve would indicate no responses were omitted by the subject of the experiment.

The purpose of this device was to remove the investigator from the experiment by automatizing the procedures, thereby making experimental results more objective. The graphic display of data and the automation of data collection revolutionized the study of behavior and later became a hallmark of the field of behavior analysis. The development and use of this device was yet another display of Skinner's inventiveness.

Automation of the experiments by Skinner was accomplished by one of his more prolific inventions, the operant conditioning chamber. Despite Skinner's opposition, the chamber later became colloquially known as the "Skinner Box" (Richelle 2001). Skinner created the chamber while a graduate student at Harvard University. The chamber may take many forms but serves primarily the same function across behavior experiments which is to identify functional relationships between a stimulus of interest and the consequences of a particular response.

Structurally, the apparatus usually contained a signal (e.g., light, sound, smell), a response target (e.g., nose/beak peck, lever), and a food

dispenser. Some chambers may also include aversive stimuli such as an electrified grid or mist. The chamber also included an automated data recording machine, the cumulative recorder (McLeod 2007). The cumulative recorder was able to collect continuous data on animal behavior within the chamber without the presence of the experimenter. The automation of data collection increased Skinner's efficiency which undoubtedly allowed him to become one of the most prolific researchers in the field of psychology. The innovation of the operant conditioning chamber and the cumulative recorder were instrumental in uncovering important scientific discoveries of behavior, such as reinforcement, punishment, and the schedules of reinforcement and punishment.

Verbal Behavior

Skinner's experimentation and work on language in the book *Verbal Behavior* (1957) is one that Skinner cited as one of his most satisfying works, second to *The Behavior of Organisms* (1938). *Verbal Behavior* examined language acquisition not from an organic or mechanical point-of-view but from a functional perspective. Skinner examined language (henceforth verbal behavior) just as he observed and measured other topographies of behavior. The result of the book leads to a foundation and understanding of how to use behavior analysis to teach language to those who have not learned within the natural environment. *Verbal Behavior* is often the source professionals fundamentally rely on to teach verbal behavior to individuals with apraxia.

However, Skinner's behavioral approach toward language acquisition was not without skepticism or controversy. A dinner at Harvard University in 1934 set the table for Skinner's inquiry into how humans acquire language. Skinner recalled that a fellow professor, Alfred North Whitehead, challenged Skinner's view of verbal behavior by asking Skinner to "account of my behavior as I sit here saying 'No black scorpion is falling upon this table'" (pp. 467–457; Skinner 1957). Twenty-three years before *Verbal Behavior*

would be published, Skinner's view of verbal behavior was challenged and would be later challenged.

Noam Chomsky (1957) wrote a scathing review of Skinner's *Verbal Behavior* and radical behaviorism that Chomsky would expand upon in 45 years later (Virues-Ortega 2006). Chomsky's review challenged Skinner's main argument that verbal behavior is acquired through experience and operant conditioning. Chomsky's review included two parts, a criticism of Skinner's analysis of verbal behavior and criticisms of Skinner's terms (e.g., verbal operants; MacCorquodale 1970). Chomsky viewed language acquisition as a structural process rather than a product of reinforcement. Despite the scathing review, Skinner did not formally reply to the Chomsky paper. However, MacCorquodale (1970) provided a thorough and equally critical review of Chomsky's paper.

Walden Two and Beyond Freedom and Dignity

Skinner from a young age had ambitions as a writer. Although he became an incredibly successful and well-known scientist, Skinner continued his literary ambitions. Skinner wrote two novels, *Walden Two* (1948) and *Beyond Freedom and Dignity* (1971). In both works, Skinner discussed and mused about a world in which the notion of free will was rejected in favor of the principles of radical behaviorism. In other words, behavior is influenced by environmental variables and consequences to the response in the presence of these variables.

Walden Two

Walden Two (1948) is a direct reference to Henry David Thoreau's *Walden*. Both books support self-reliance within the community and that the environment controls, or shapes, individual's behavior more so than free will. *Walden Two* was considered controversial at the time because of the characters' rejection of free will. Free will is a philosophical construct that suggests an individual's ability to choose between a number of

responses without influence of others, environment, and a greater power (Ivie 2006). Skinner writes about how communities can peaceably live together in a near utopian environment by embracing behavior is influenced and shaped by environmental variables (Skinner 1971).

Beyond Freedom and Dignity

Beyond Freedom and Dignity (1971) provided Skinner the opportunity to expand upon themes and ideas of *Walden Two* (1948). *Beyond Freedom and Dignity* (1971) was on the *New York Times*' Best-Seller list for 18 weeks and was, perhaps, Skinner's most well-known book. The overall theme of the book is to promote Skinner's idea of scientific explanation, rejection of free will and support of determinism, and cultural engineering. In the book, Skinner called for a technology of behavior. The technology of behavior suggests that major problems involve human behavior and thus analysis of such behavior is necessary to solve these major problems.

Impact

Education

Skinner's work initially began as an experimental endeavor, in which he sought to understand the principals and mechanisms of behavior. Given his success, he began to conceive practical applications of his work. One notable application Skinner conceptualized was using the principals of reinforcement and shaping in education. In 1954, Skinner presented "The Science of Learning and the Art of Teaching" at the University of Pittsburgh during the *Current Trends in Psychology and the Behavioral Sciences*. In this presentation, published later that year, Skinner discussed his experience during a visit to his daughter's classroom. Skinner observed coercive teacher-child interactions, delayed feedback on student performance, and a lack of contingencies for students' display of appropriate behavior. These teacher-child interactions troubled Skinner and resulted in him developing programmed instruction (PI; Lockee et al. 2004). Skinner developed PI as an instructional program that involved matching a

student's current ability level to the instruction level and successively shaping responses until a student learned a particular skill (LaBrot and Dufrene 2017).

More specifically, PI involves teachers specifying behavioral objectives based on academic instructional content and then determining a student's level within that instructional content. Furthermore, positive reinforcement is systematically provided to students for correct responses or successive approximations towards correct responses until they master a given skill within the instructional content. Skinner designed PI to have a rapid pace to give students more opportunities to respond, and therefore have more opportunities to be positively reinforced, which leads to improved learning (LaBrot and Dufrene 2017). Skinner believed this would improve teachers' ability to effectively teach students and promote a quality learning environment.

Skinner conceptualized PI as more than a didactic strategy to improve learning, however. He also believed that PI should be incorporated into educational practices in the form of technology. Skinner discussed the use of "mechanical devices" to provide feedback and facilitate PI so as to alleviate teachers' workload (Lockee et al. 2004). Skinner pushed for the use of programmed technology in educational settings in his article, "Teaching Machines." In this article, Skinner discussed the use of programmed machines to not only facilitate teaching in the form of PI but data collection of student outcomes (Lockee et al. 2004). Skinner's idea of PI for educational purposes caught on and many researchers sought to implement and evaluate this application of operant conditioning.

Over several decades, PI developed a strong empirical base for improving academic and related outcomes for children and adolescents, adults, and individuals with intellectual and developmental disabilities (e.g., Crosbie and Kelly 1994; Lockee et al. 2004; Shimizu and McDonough 2006; Svoboda et al. 2013). However, PI has fallen out of favor as a primary means of instruction, as some claim that PI is not feasible for teachers and other education staff to implement such a program with every student, as it

would require a great deal of resources (Lockee et al. 2004; Svoboda et al. 2013). Nevertheless, more contemporary instructional practices utilize PI to enhance learning and related outcomes. This is directly attributable to Skinner applying the theory of operant conditioning to education.

Behavioral Therapy

In the middle of the twentieth century, psychological treatments largely consisted of psychoanalytic and nondirective therapies. These treatments were not practical and did not yield convincing results. Furthermore, psychopharmacology at that time was still being refined. The psychoanalytic and nondirective therapies of the time focused on theoretical mental constructs, with the goal of these therapies to remedy the problems with various mental structures (Richelle 2001).

Skinner did not argue that mental disorders existed and altered an individual's functioning. Rather, he proposed that mental disorders were disturbances in observable behavior. Skinner proposed that therapy for mental disorders should focus on the treatment of observable behaviors that result from mental disorders. This was not necessarily novel approach to treatment, as behavior therapy had previously emerged as a treatment for maladaptive behavior. John B. Watson had already utilized classical conditioning to treat anxiety and fear in children (Richelle 2001). However, Skinner introduced the notion of strengthening and weakening behaviors resulting from mental disorders through operant conditioning. Further, Skinner's influence on behavior therapy included the rigor of data collection and control of an individual's environment, similar to that of behavioral experiments conducted in a laboratory (Bjork 1997).

Skinner was not a behavior therapist. Rather, his influence on behavioral therapy was indirect by producing research and developing theories of behavior change through operant conditioning. Nevertheless, his work and influence spearheaded the practice of behavioral therapy, which is now considered an evidence-based treatment approach for a variety of concerns and is currently widely practiced.

Conclusion

Skinner was recognized in life and following his death in 1990 as an incredibly influential scientist. Skinner received several awards and honorary degrees from around the world. Skinner was recognized as a *Professor Emeritus* at Harvard University in 1974. Among the distinctions and awards, Skinner received the William James Fellow Award from the American Psychological Society and the Lifetime Achievement Award from the American Psychological Association.

Skinner's contributions to the field of psychology helped to establish the field of experimental analysis of behavior and later provided the conceptual foundations of applied behavior analysis (Baer et al. 1968). Skinner succeeded in providing future scientists not only the apparatus to study and measure behavior of organisms but also the conceptual underpinnings that parsimoniously provide explanations of why behavior occurs. Skinner's observations and experiments provided the world cause-and-effect theories of behavior which contrasted against the theories of his time that provided mentalistic and mechanical explanations of behavior. Skinner's work has provided the scientific community explanations of behavior that are deeply rooted in the scientific method and evolutionary theory which can be objectively observed and measured. Skinner's legacy will be known as one of discovery, innovation, and of thoughtful skepticism that was anchored by the natural sciences.

Cross-References

- ▶ [Learning](#)
- ▶ [Operant Conditioning](#)

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Skinnerian Behaviorism

- ▶ [Radical Behaviorism](#)

Skipping

- ▶ [Absenteeism](#)

Slack Off

- ▶ [Laziness](#)

Sloth

- ▶ [Laziness](#)

Smith, Gregory T.

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Dr. Smith was born October 14, 1957, and completed his undergraduate education at Kalamazoo

College, in Kalamazoo, Michigan, in 1979. After working 2 years as a social worker for the Salvation Army in Detroit, Michigan, he began his doctoral training, earning his Ph.D. from Wayne State University in 1986. He moved from Wayne State to the University of Kentucky in the fall of 1989, where he has been a faculty member ever since. He is currently Professor of Psychology and Director of Clinical Training for the doctoral program in clinical psychology. He has also been named a University Research Professor. He has been studying individual difference risk factors for addictive behaviors since his doctoral training.

Dr. Smith's early career contributions focused on individual differences in learned expectancies for reinforcement from drinking alcohol. With several colleagues he found that alcohol expectancies predicted the subsequent onset of adolescent drinking as well as drinking-related problems. In the 1970s, research using the balanced placebo design had shown that many effects of alcohol consumption occurred when people believed that they had consumed alcohol, whether or not they actually had. Researchers then developed measures of alcohol expectancies, most importantly expectancies for reinforcement from drinking. With colleagues, he conducted the first research that showed that (a) youth held such expectancies prior to drinking onset and (b) endorsement of those expectancies, particularly that drinking facilitated social experience, predicted the subsequent onset of drinking as well as the emergence of problem drinking. Those findings have been replicated numerous times.

He and his colleagues then extended applied expectancy theory to the study of eating disorders, particularly to the concepts of learned expectancies for reinforcement from eating and from dieting/thinness. He and his colleagues found that women with bulimia nervosa endorsed both types of expectancies more strongly than normal or psychiatric control women, consistent with the bulimia nervosa pattern of binge eating and then purging to pursue thinness. Women with anorexia nervosa endorsed expectancies for reinforcement for thinness more strongly than control groups, again consistent with their symptom picture. They found that eating and thinness expectancies could be measured in

children, and the expectancies predict the subsequent onset of, and increases in, binge eating and purging behavior across the early adolescent years. They found that an experimental intervention could reduce thinness expectancies and eating disorder symptoms.

In his efforts to develop more comprehensive models of risk, Dr. Smith turned to the study of personality traits. Following the work of Steven Whiteside and Donald Lynam, he and colleagues focused on a trait that disposes individuals to act rashly when highly emotional, called urgency. He and his colleagues provided the first documentation that (a) urgency can be measured as young as elementary school and (b) elementary school elevations in urgency predict the subsequent onset of drinking, cigarette smoking, and binge eating. With adults, he and his colleagues showed that urgency also predicted increases in gambling, non-suicidal self-injury, and depression. The trait of urgency predicts these problem behaviors beyond the influence of other impulsogenic traits, such as sensation seeking.

In recent years, Dr. Smith and his colleagues have worked to integrate trait theory with expectancy theory. They developed the acquired preparedness model, which holds that elevations in high-risk traits, such as urgency, bias psychosocial learning lead to heightened levels of high-risk expectancies in turn to increased engagement in addictive behaviors. Dr. Smith and his colleagues have documented a mediational sequence in which trait elevations predict subsequent increases in expectancies, which in turn predict increases in multiple forms of addictive behavior, including both drinking and binge eating. This work has been replicated by researchers from other labs. Additionally, researchers in Dr. Smith's lab and around the country have begun to investigate interactive effects, such that among individuals high in urgency, those with elevated expectancies for reinforcement from drinking are most likely to drink, those with elevated expectancies for smoking are most likely to smoke, and so on. These two ways to integrate personality trait theory and psychosocial learning theory provide new paths for understanding the risk process in all its complexity.

Dr. Smith has also made a series of contributions on the theory underlying the validation of hypotheses in science, with a particular focus on the validity of psychological theories and the measures used to test them. This work has involved an integration of advances in the philosophy and history of science with traditional psychological work on theory validation.

Smith, Steven R.

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Steven R. Smith is an Associate Professor of clinical psychology in the Department of Counseling, Clinical, and School Psychology at UC-Santa Barbara. His research and clinical interests generally include therapeutic personality and neuropsychological assessment (Archer and Smith 2014; Gorske and Smith 2008; Smith et al. 2015; Smith 2007b), diversity issues in assessment (Chang and Smith 2014; Smith and Krishnamurthy 2018), clinical sport psychology, and psychotherapy with men and boys.

Early Life and Educational and Occupational Background

Dr. Smith was born in 1972 and was raised in Arkansas and Tennessee. He earned his BA in psychology and criminal justice from Beloit College in Wisconsin before completing a preprofessional traineeship at the Devereux Foundation near Philadelphia. He earned his PhD in clinical psychology from the University of Arkansas in 2001 and completed his predoctoral internship and postdoctoral fellowship at the Massachusetts General Hospital (MGH) and Harvard Medical School. After training, he served as the consultation neuropsychologist at MGH for 2 years. He joined the faculty of UCSB in 2004 and served as the Director of Clinical training from 2008 to

2014. From 2014 to 2016, he was a Professor and Co-Director of Clinical Training at the PGSP-Stanford PsyD Consortium of Palo Alto University. He returned to UCSB in 2016.

Research and Clinical Interests

During his doctoral training at Arkansas, Dr. Smith was mentored by Drs. Mark Hilsenroth, Erik Knowles, and Sabine Wingenfeld. His work involved the behavioral, cognitive, and personality assessment of children and adolescents. His research involved the multimethod and multi-dimensional assessment of children, primarily using the Rorschach Inkblot Method (Smith and Handler 2007; Smith 2007a; Smith et al. 2001). His work evolved to include neuropsychological assessment and the use of therapeutic methods in assessment, culminating with the manual, *Collaborative Therapeutic Neuropsychological Assessment* (2008; with Tad Gorske). Along with his students, he has explored diversity issues in assessment. In more recent years, his work has involved the psychological needs of athletes and the interaction of health and psychological well-being, particularly in children. Finally, he is interested in the psychological needs of men and boys and the role of masculinity in mental health.

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SMS

- ▶ [Self-Monitoring Scale](#)

SNAP-2

- ▶ [Schedule for Nonadaptive and Adaptive Personality \(2nd Edition\)](#)

Snapchat

- ▶ [Jealousy](#)

SNP

- ▶ [Genetic Polymorphism](#)

Sociability

- ▶ [Extraversion](#)

Social Acceptance

- ▶ [Need to Belong \(Baumeister and Leary\)](#)

Social Adaptive Problems

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Synonyms

[Adaptive Problems](#)

Definition

Social adaptive problems refer to a class of adaptive problems for which both the problem and the solution to the problems are largely social.

Introduction

Ancestral humans faced problems in their environment and with other humans that needed to be overcome. Adaptive problems refer to this class of tasks (e.g., finding food, finding shelter). Social adaptive problems refer to a specific class of problems where both the problem and the solution to the problem are social.

Social Adaptive Problems

The term “adaptive problems” is a global classification referring to the tasks and challenges faced by an organism of a given species. These can include tasks such as finding food and shelter, protection from other organisms, as well as finding mates and successfully reproducing offspring whom themselves are likely to reach their reproductive potential (Barkow et al. 1995; Buss 1995). “Social adaptive problems” refer to a class of adaptive problems for which both the problem and the solution to the problems are largely social, whereas adaptive problems do not necessitate the problem or solution to be social in nature (Buss and Hawley 2010). For example, snakes need to

be able to hide and ambush prey and snakes evolved camouflage to do so, but neither the problem (e.g., needing to hide to hunt prey) nor the solution (e.g., camouflage) is social in nature and is thus an adaptive problem. In contrast, while hunting prey for humans is not inherently social, working in groups to increase the likelihood of successfully capturing prey is indeed social and thus would be a social adaptive problem. Social adaptive problems often include problems related to kinship, mating relationships, ingroups and outgroups, status hierarchies, friendships, and enemies. Group living is, at its core, a solution to multiple social adaptive problems insofar as living with others enables better access to food, mates, shelters, and protection from large predators and other groups of humans.

Similar to the hunting example previously described, we can consider the issue of cheaters and nonreciprocators. In early human history, individuals lived in tribes and often shared responsibilities associated with hunting. A group engaging in a hunting attempt has risk spread equally among those involved in the hunt with the promise of shared resources should the hunt be successful (e.g., sharing the meat). However, an individual can benefit from the possible outcome and cheat the system by putting themselves further away from potential risk during the hunt (e.g., thus being a free-rider by avoiding the risks of the fight while reaping the benefits of the rewards); this poses a social adaptive problem to the other group members who now take greater risk for themselves while maintaining the same portion of the resource outcome (e.g., Buss 1995; Buss and Shackelford 1997).

These humans faced a social adaptive problem, with multiple social solutions; threats of ostracism from the group reduced individuals’ likelihood of engaging in such free-loading behaviors and humans evolved a strong cheater detection system (e.g., the ability to discriminate between fake smiles and real smiles which are a signal of cooperative intent) to help them manage this problem. The threat of social ostracism, in turn, causes individuals’ self-esteem to decrease, setting off a proverbial alarm system which motivations reconnection and mending social bonds (e.g.,

Cosmides and Tooby 2000; Kurzban and Leary 2001). In all three cases, these are social solutions to a social problem.

Conclusion

Human beings faced numerous survival and reproductive threats during our history. Humans' ability to solve social problems with social solutions is at the core of what social adaptive problems are. Social adaptive problems and human's ability to address those problems offer a survival advantage to humans.

Cross-References

- ▶ [Adaptive Problems](#)
- ▶ [Environment of Evolutionary Adaptedness \(EEA\)](#)
- ▶ [Evolutionary Perspective](#)
- ▶ [Evolved Psychological Mechanisms](#)

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Social Anxiety Disorder

- ▶ [Social Anxiety/Social Phobia](#)

Social Anxiety/Social Phobia

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Synonyms

[Social anxiety disorder](#)

Introduction

Social anxiety is a common experience that occurs on a continuum (Rapee and Heimberg 1997; Ruscio 2010). Thus, while social anxiety and reticence may be appropriate and adaptive in some situation, social anxiety disorder (SAD) occurs when a person experiences multiple social fears that cause broad impairments (Heimberg et al. 2014). However, the distinction between normative social anxiety and SAD continues to be debated (Ruscio 2010).

In the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5), SAD (previously known as social phobia) is characterized by intense fear or anxiety about social situations in which the person may be observed and in which they fear their actions or displays of anxiety symptoms will be negatively evaluated (American Psychological Association [APA] 2013). These negative evaluations include potential humiliation and embarrassment as well as fears of rejection and offending others (APA 2013; Heimberg et al. 2014). These fears are persistent and pervasive leading to marked avoidance, distress, and impairment (APA 2013). Additionally, fears are generally excessive or unreasonable as judged by the clinician despite the tendency for individuals with SAD to not view their anxiety as excessive (APA 2013). Sociocultural context is vital to consider given the social nature of SAD, cultural influences of presentation (e.g., taijin kyofusho is often found in Asian settings and is characterized by a fear that the individual will make other people uncomfortable),

and the impact sociocultural context may have on treatment response (APA 2013; Heimberg et al. 2014). SAD can be reliably diagnosed in children as young as age six using the same diagnostic criteria and duration requirements as adults (Heimberg et al. 2014). In children, SAD is often expressed as crying, having tantrums, freezing, shrinking, or failing to speak (APA 2013).

SAD is relatively common with a 12-month prevalence rate of approximately 7% in the United States with similar rates for adults and children (APA 2013). Several demographic characteristics have been found to be related to SAD. Females are diagnosed with SAD more often, particularly in adolescence and young adulthood (APA 2013). Females tend to report a higher number of fears and have comorbid depressive, bipolar, and anxiety disorders, while males tend to have comorbid oppositional defiant or conduct disorders and use substances to self-medicate (APA 2013). Other comorbid disorders include body dysmorphic disorder, avoidant personality disorder, high-functioning autism, and selective mutism (APA 2013).

Onset of SAD is often in adolescence and can emerge from a childhood history of shyness or social inhibition, following a stressful or humiliating experience, or be more gradual (APA 2013). Adolescents report a broad range of fears and avoidance although their concerns are often related to specific situations (e.g., dating; APA 2013). While SAD has a lower prevalence rate in older adults, older adults experience social anxiety across a broader range of situations and may include concerns about disability, appearance, or functioning (APA 2013).

While the etiology of SAD remains largely unknown, anxiety tends to run in families and suggests a genetic component (APA 2013; Higa-McMillan et al. 2014). Temperament may also play a crucial role as negative affectivity and behavioral inhibition are common in individuals with SAD (APA 2013; Higa-McMillan et al. 2014). Parental anxious modeling may contribute to environmental risk factors (APA 2013; Higa-McMillan et al. 2014). Additionally, selective attention and interpretation bias have been

implicated in the development and maintenance of SAD (Higa-McMillan et al. 2014).

SAD (as well as subsyndromal social anxiety) is associated with a range of functional consequences including impairments in school and work settings, social relationships, well-being, and leisure activities (APA 2013; Higa-McMillan et al. 2014; Ruscio 2010). Despite the impairments and distress associated with SAD, individuals often do not seek or delay treatment (APA 2013; Higa-McMillan et al. 2014). Without treatment, SAD can be chronic leading to substantial impairment and comorbid and subsequent disorders such as other anxiety disorders and depression (Anderson et al. 2010; APA 2013; Heimberg et al. 2014; Higa-McMillan et al. 2014).

Models of SAD

Several models of SAD have been suggested and supported in research. The tripartite model of emotion (Clark and Watson 1991) suggests that individuals with high negative affectivity (or objective distress) and physiological hyperarousal (somatic symptoms) are susceptible to anxiety, while those with high negative affectivity and low positive affectivity (pleasurable engagement) are at risk for depression. Research assessing SAD via this model has found mixed evidence. This may suggest that SAD is distinct compared to other anxiety disorders, and the tripartite model may not adequately illustrate this distinction (Anderson et al. 2010). Revisions of the model suggest that both high negative affectivity and low positive affectivity are both high negative affectivity and low positive affectivity are prominent in SAD in addition to physiological hyperarousal (e.g., Anderson et al. 2010). This addition of low positive affectivity may be due to the lack of enjoyment of and exposure to social interactions inherent in SAD (Anderson et al. 2010).

Several cognitive-behavioral models have also been suggested. For example, Rapee and Heimberg (1997) posit that a person creates a mental representation of themselves as seen by their audience by considering information from memories, perceived internal cues, and perceived external cues. Because

attentional resources are focused on threat (e.g., negative evaluations), negative cues are more likely to contribute to this mental representation than positive cues (Rapee and Heimberg 1997). The person then compares their mental representation of themselves as seen by their audience with their belief of their audience's standards, and this comparison is used to determine the probability and consequences of negative evaluations (Rapee and Heimberg 1997). For an individual with SAD, these expected negative evaluations lead to behavioral, cognitive, and physical symptoms of anxiety which, in turn, influence the person's mental representation of themselves (Rapee and Heimberg 1997). Due to this cycle of creating a mental representation, attending to and perceiving negative evaluations, and experiencing anxiety symptoms, the anxiety is perpetuated (Rapee and Heimberg 1997).

SAD has also been explained as being rooted in emotion regulation difficulties. Emotion regulation difficulties include heightened emotional intensity, negative reactivity to emotions, and ineffective regulation strategies (e.g., Helbig-Lang et al. 2015). When confronted with a social situation, individuals with SAD may experience intense emotions and interpret them as a potential threat that needs to be suppressed (Helbig-Lang et al. 2015). Emotion regulation difficulties may also be attributable to distorted beliefs and interpretations as well as the use of safety and avoidance behaviors (Helbig-Lang et al. 2015). Because of these responses, positive social interactions may be less likely and the anxiety is maintained.

Treatment of SAD

Both psychosocial and psychopharmacological treatments have been shown to be efficacious in treating SAD and are sometimes used in combination (Hofmann 2010). Cognitive-behavioral therapy (CBT) focuses on correcting maladaptive cognitions (Hofmann 2010). CBT includes several components thought to contribute to the maintenance of SAD. Exposure practices are used to reevaluate social costs associated with negative evaluation in order to correct the perception of

how "bad" it would be if a social situation results in a poor outcome (Hofmann 2010). Attention retraining is used to address the tendency to selectively attend to threat (Hofmann 2010). Safety behaviors, or actions that reduce the person's distress, are specifically addressed as behaviors that are not warranted (Hofmann 2010). Additionally, rumination after the event is targeted because people with SAD tend to dwell on high perceived social costs and negative self-perceptions following social interactions (Hofmann 2010).

Psychopharmacological treatments, such as second-generation antidepressants, are commonly prescribed for the treatment of SAD (de Menezes et al. 2011). For example, paroxetine, sertraline, fluvoxamine, escitalopram, and venlafaxine have been found to be effective in reducing symptoms of SAD (de Menezes et al. 2011). Irreversible and reversible monoamine oxidase inhibitors (MAOIs), beta-blockers, and benzodiazepines have also previously demonstrated benefits in the treatment of SAD (de Menezes et al. 2011).

Conclusion

SAD is a highly common, chronic, and debilitating disorder in which the person fears social situations that may lead to negative evaluations. Several models of SAD have been suggested, including cognitive-behavioral models which focus on cognitive distortions and emotion regulation difficulties thought to be inherent in SAD. Psychosocial treatment, such as CBT, seeks to directly address these deficits and has been found to be effective in treating SAD. Psychopharmacological treatments, including the use of second-generation antidepressants, have also been supported.

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Social Approach Motivation

- ▶ [Inhibited and Uninhibited Children](#)

Social Attention

- ▶ [Extraversion](#)

Social Avoidance Motivation

- ▶ [Inhibited and Uninhibited Children](#)

Social Boldness

- ▶ [Extraversion](#)

Social Character (Fromm)

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Social Character (Fromm)

Erich Fromm (1900–1980) analyzes the relationship between an individual and a society throughout his works in an attempt to understand how a society influences its individuals and vice versa, how individuals form a society. In his attempt to understand the processes through which ideologies are created and absorbed by groups of people, Fromm formulates a social psychological position based on a unique combination of Sigmund Freud's and Karl Marx's thinking. Fromm's firm belief is that Marxism needs a psychological theory, and psychoanalysis needs to adopt Marxist insights. From this original mixture, he posits *the concept of social character*, which is widely agreed to be Fromm's single most important idea (E.g., Funk and McLaughlin 2015; Cortina and Maccoby 1996).

Fromm's social character is “the core of the character common to most members of a culture, in contradistinction to the individual character, in which people belonging to the same culture differ from each other” (Fromm 1962, 62). Social character, Fromm argues, is the medium that enables the economic basis of a society to be translated into the ideological superstructure. For instance, in an industrial society citizens need to be eager to work, and in a consumer society they need to be eager to consume. Shortly, social character makes people *want to do what they have to do* in order to keep their society functioning. Social character is the character matrix or a syndrome of character traits that develops when people adapt to the

economic, social, and cultural conditions of a group (Fromm 1955, 77, 123).

Even though in his earlier writings Fromm called the concept of social character many different names (e.g., “the libidinous nature of society” and “the socially typical character”), the object of the study remains the same. The following chart demonstrates the central idea.

IDEOLOGICAL SUPERSTRUCTURE



SOCIAL CHARACTER



MATERIAL BASIS

As seen above, the influence of the social character is twofold. It is not a static attribute of a person but a dynamic feature, and it can change when, say, technology develops and there is a shift in the material basis. When new needs occur, they trigger ideas that tend to stabilize and intensify new social character orientations. This highlights the twofold influence of social character; under normal circumstances, social character works as cement to further the stability of a society, but under special conditions, it may function as a dynamite that is aimed at deconstructing the prevailing social structure. Individuals do not merely adapt to the social conditions, but the process is dynamic (See e.g., Fromm 1941, 1976).

When there is a lag between the ideological superstructure and material basis, cracks occur, and these can be explained with the help of the concept of social character. Together with Michael Maccoby Fromm conducted an empirical study in a Mexican village that demonstrates these aspects: after the Mexican Revolution local peasant farmers were given land, but many failed to meet the new conditions of social freedom and formal equality. Those who were born and had lived in *haciendas* (a certain kind of semi-feudal

farming system) could not immediately adapt, but instead developed such social pathologies as alcoholism and violent behavior under the new regime. Fromm explained how the prevailing social character of the past society (feudal system) could not be artificially forced to assimilate into a new social setting (Mexican system after revolution) as a social character does not change in a heartbeat but through a relatively slow process (Fromm and Maccoby 1970). In this aspect, it is necessary to understand not only economical conditions but also social, cultural, historical, and psychological factors in order to promote a thorough societal change.

In any case, due to the influence of social character people tend to be satisfied with the social conditions they are living in. For instance, in a society that values unlimited consumption and supports its inhabitants to consume as much as they can, a consumption-oriented individual feels like he lives a good life when acquiring possessions. However, for Fromm, the question of how to live a good, happy life is not just about obeying certain official values or furthering some shared goals; instead, he focuses on analyzing the underlying strivings of individuals and societies.

The Social Unconscious

Drawing from Freud’s works, Fromm realized that there are passions of which we are unaware – the unconscious – and which guide our actions. These hidden motives contribute to the social dynamics of a society. Fromm argues that the process is reciprocal: as the “individual’s manner of life is determined by society. Society itself is nothing without individuals” (Fromm 1992, 17). An individual’s personality is deeply influenced, then, by the socially shared values, which are transmitted to individuals through different social spheres, like family, friends, educational system, religion, popular culture, and work-life. Further, those social spheres are themselves shaped by individual members of society.

Fromm does not accept general values as given. Instead, he wants to go deeper, to the roots and origins of such phenomena – the latent aspects of humanity and the guiding emotional orientations behind societal organization. For instance, Fromm observes that there are various practical and cultural contradictions between Western values and their compliance, and the significance of these cultural paradoxes cannot be grasped by conventional social studies. Fromm suggests that what may be called the current “schizophrenic” situation or the insanity of the Western world demands a serious study of underlying passions, as there are irrationalities and contradictions in modern way of living (Fromm 1962). This notion leads Fromm to analyze *the unconscious of the society*. The concept of social unconscious

refers to that repression of inner reality which is common to large groups. (. . .) Naturally the contents of the social unconscious vary depending on the many forms of social structure: aggressiveness, rebelliousness, dependency, loneliness, unhappiness, boredom, to mention only a few. The repressed impulse must be kept in repression and replaced by ideologies which deny it or affirm its opposite. (Fromm 1981, 36)

The social unconscious is not merely a theoretical postulate but an empirical problem. Even if a society shares some official values, Fromm questions these shared rationalizations. For instance, he questions the sanity of spending great portions of national budgets on weaponry and artillery which, if they are used, aim to destroy the civilization; or teaching values such as humility and unselfishness when at the same time people are taught to obey the exact opposites of these virtues in order to be successful. He also has little tolerance for the practice of spending millions of dollars to store agricultural surpluses when people are starving around the world (Fromm 1962, 92–93.) Instead of accepting shared rationalizations of the official values, Fromm tries to reach the passions beyond the social surface. For this task, the analysis of social character is of central importance.

Radical Humanism and Evaluation of Societies

To fully understand current social character orientations, it is essential to analyze not only formal

manifestations but also such expressions of everyday life as popular songs, favorite jokes, best-selling literature, shared customs, and so forth – all the instruments of influence for assimilation and socialization, however trivial they first might seem. They all contain information about current character orientations, whether implicitly or explicitly (Fromm 1981).

Fromm bases his critical examinations of social customs and shared practices on radical humanism. Humanity, Fromm clarifies, has to be understood in terms of existential needs; human beings are paradoxical creatures who are torn between the natural world and the social sphere of living. Fromm argues that human beings are the only animals who have developed self-consciousness, and who realize that their original ties to nature have been ripped away: humans are creatures who realize that they are alone. The task is, then, to find a new uniformity between others and the world without losing one’s individuality. Eventually the deep problem is, how to be related to other individuals (e.g., Fromm 1947). Human flourishing depends on the successful answer to these existential needs, and societies can be evaluated on how they are adjusted to and promote a healthy way to respond to these fundamental human needs (Fromm 1955). Precisely for this reason, the analysis of social character has an implicit normative impact.

Fromm shares Marx’s assertion that the task is not only to explain social circumstances but, imperatively, to attempt to change inhumane social practices. In this sense, the evaluation of a society and a social character is always connected to the humanistic values. If the current social character promotes values which do not further the realization of human possibilities, the societal way of living can be criticized. Accordingly, if social character promotes productive relatedness between individuals, it can be praised. A good society can be defined

as a society which approaches most meeting the needs of humanity, the needs of man, and a bad society as society in which the gap between human needs and social needs is great. (. . .) The conflict however always exists: that between the historical need of any given society to make man function and the human needs based in the essence of human existence to make man function. (Fromm 1992, 81)

In this respect, Fromm's background as a psychotherapist and a social critic becomes apparent. For him, social criticism is intimately connected to the aim of social change. It can be said, that for Fromm, social criticism is actually a form of social (psycho)therapy. Fromm wants to analyze and make apparent the strivings, which can be found beyond the surface of official social manifests.

With his study of social character, Fromm combines humanistic philosophy, critical politics, and empirical research. This synthesis between psychoanalysis and social criticism demonstrates Fromm's unorthodox way of thinking and his desire to avoid obeying prevailing dogmas. As he states in a lecture from 1975, "one can say that every creative theory is necessarily false and that it becomes formulated more correctly only over the course of historical process" (Fromm 1992, 125). Truth is, according to Fromm, always historical, and for this reason, the study of social character is a constant, dynamic process that aims to understand the current situation of the world. To sum it up, Fromm's social-psychological theories offer a life-affirmative attempt to make sense of the historical forces that mold individual and collective lives.

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Social Class Differences

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Synonyms

[Socioeconomic status differences](#)

Definition

Researchers often define objective social class as one's position in the society based on their education, occupation, and income level, whereas subjective social class refers to one's perception of their own position in the society relative to others (Kraus and Stephens 2012). Social class differences are differences that emerge across individuals from relatively higher (middle or upper) and lower (working) social classes in psychological tendencies, as well as in outcomes in domains such as health and education.

Introduction

Social class corresponds to a material and symbolic world that people inhabit and regularly engage with, as opposed to being an inherent property of individuals; it plays an important role in shaping their psychological patterns, as well as health and education outcomes (Kraus and Stephens 2012; Snibbe and Markus 2005). Objective indicators of social class that researchers commonly use include income, educational attainment, and occupation (Kraus and Stephens 2012). Beyond these objective indicators, researchers also assess individuals' subjective perceptions of their own social standing. One common measure of subjective social class is the Mac Arthur Scale of Subjective Socioeconomic

Status, which asks individuals to place themselves on a ten-rung ladder, where the lowest rung represents those that are worst off, and the highest rung represents those that are best off in the society, based on their income, education, and occupation (Adler et al. 2000).

Based on both objective and subjective indicators of social class, individuals show differences in terms of the ways in which they view and understand the self and others, and relate with their social environment. Furthermore, individuals differ in their health outcomes and longevity, as well as educational attainment and achievement, based on their social class background.

Differences in Self-Conceptions

Individuals' conceptions of the self develop as a function of the affordances that exist in the social settings that they inhabit. Characteristics of social class settings play an important role in shaping child-rearing practices that are functional in these settings, which, in turn, shape self conceptions.

Lower-class settings are characterized by restricted (economic and social) resources, structural or environmental constraints, limited opportunities, as well as uncertainty and unpredictability (Kraus et al. 2012). Parenting styles in these settings foster a way of being that is focused on maintaining ties and fitting in rather than excelling personally (Stephens et al. 2011). As a result, in these settings, individuals tend to develop an interdependent conception of the self, which understands the self primarily through its social connections and emphasizes blending together or fitting in, rather than standing out (Stephens et al. 2011). Other research has suggested that parents in lower-class settings focus on developing "hard" individualism in their children by toughening them up, so that they can face the challenges of an unpredictable and risky world as they grow up (Kusserow 1999).

Conversely, upper-class settings are characterized by an abundance of resources, greater choices and opportunities, as well as mobility (e.g., Snibbe and Markus 2005). In upper-class settings, parents provide their children with opportunities to exercise

free choice from early ages on (e.g., by providing various options to choose from; Snibbe and Markus 2005; Stephens et al. 2011). Upper-class parents aim to raise their children to be individualistic, but they understand individualism in "softer" terms, such as discovering and expressing their unique qualities (Kusserow 1999). In these settings, where individual opportunities and resources are more abundant, individuals tend to develop an independent conception of the self, which understands the self as an autonomous and unique entity independent from others, and emphasize freedom of choice and standing out from others by expressing one's unique attributes such as personal goals and desires (e.g., Stephens et al. 2011).

Differences in Social Perception, Agency, and Action

Lower-class settings foster a conjoint model of agency, which does not locate the source of action strictly within the person (Stephens et al. 2011). Instead, individuals experience a heightened awareness of the external forces that shape their actions, which are beyond their control (Kraus et al. 2012). Research has shown that lower-class individuals focus more on the context and other people than upper-class individuals do; for instance, they show greater engagement in their social interactions and greater empathic accuracy (i.e., ability to read the emotions of others), and are more likely to experience emotion contagion (i.e., transmission of emotions from interaction partners; Kraus et al. 2012). Lower-class individuals also tend to be more vigilant to possible external threats (Kraus et al. 2012).

Upper-class settings foster a disjoint model of agency, based on which actions are internally driven and influence the environment (Stephens et al. 2011). Individuals experience a heightened sense of personal control, and base their actions primarily on personal goals and internal attributes (Kraus et al. 2012). Relatedly, upper-class individuals tend to attribute outcomes (e.g., poverty) to internal or dispositional causes (e.g., laziness) rather than external forces (e.g., the social structure; Kraus et al. 2012). They also show less

compassion toward others and engage in less prosocial behaviors than lower-class individuals, such as giving a smaller percentage of their income to charity (Kraus et al. 2012).

Differences in Health

Research has documented worse outcomes among individuals from lower-class backgrounds in terms of physical and psychological health and well-being (Adler et al. 2000). Adults lower in social class status have higher rates of cancer, heart disease, hypertension, and upper respiratory disorders than do adults higher in social class status (Adler et al. 1994). Lower social class is also associated with greater standardized mortality rates, or ratios of observed to expected deaths (Adler et al. 1994). Differences in health outcomes and mortality may be a function of differences in access to healthy foods and healthcare, and difficult occupational conditions, as well as stem from chronic stress that lower-class individuals are prone to experience due to greater uncertainty in their environment, greater exposure to negative life events, and limited resources to cope with stress (Adler et al. 1994). Threat vigilance and a reduced sense of personal control can also contribute to worse health outcomes documented among lower-class individuals (Kraus et al. 2012).

Research has shown that perceptions of social class rank predict health outcomes above and beyond objective indicators of social class. In a sample of White women, controlling for objective indicators, higher social class rank predicted better self-reported global health (Adler et al. 2000). It also negatively predicted psychological variables that relate to health outcomes such as pessimism and subjective stress and positively predicted coping (Adler et al. 2000).

Differences in Educational Outcomes

Research documents disparities across social classes in educational outcomes. Parental socioeconomic status is positively associated with students' academic achievement, due to resources

and social capital necessary to succeed in school, as well as access to higher quality institutions (Sirin 2005). Particularly among racial and ethnic minority students, ecological variables such as neighborhood socioeconomic level were stronger predictors of academic achievement than parental social class (Sirin 2005).

Beyond having limited access to resources for academic success, students from lower-class backgrounds also face social barriers in the form of an experience of threat in educational settings. For instance, students from lower-class backgrounds showed worse test performance when an academic test was presented as being diagnostic of intellectual ability (compared to when it was framed as not diagnostic), presumably due to the cultural stereotype associating poor people with low intellectual ability (Croizet and Claire 1998). Furthermore, first-generation college students experienced a cultural mismatch between their social class background and the norms of independence that characterize middle- and upper-class ways of being that are prevalent in college settings (Stephens et al. 2012).

Conclusion

Individuals from lower and upper social class backgrounds show various differences as a function of the different contexts that they inhabit and engage with. Social class shapes self-conceptions, perceptions of the social world, and action tendencies. Upper-class individuals tend to develop more independent views of the self and prioritize pursuit of personal goals and expression of personal attributes, whereas lower-class individuals tend to develop more interdependent views of the self and prioritize fitting in to navigate a risky and uncertain world. Relatedly, upper-class individuals generally have a heightened sense of personal control and show less empathy, compassion, and prosocial behaviors than lower-class individuals.

Researchers have also observed stark social class differences in terms of health and education outcomes. Overall, lower class individuals experience worse health outcomes due to factors such as limited access to healthcare and chronic stress

(e.g., Adler et al. 1994), and lower academic achievement due to limited access to educational resources, as well as the experience of threat or misfit in academic settings (Croizet and Claire 1998; Sirin 2005; Stephens et al. 2012).

Researchers argue that observed social class differences stem from the material and social realities of social class settings such as access to economic and social resources and opportunities, as well as individuals' subjective experience of their rank in the society (Kraus and Stephens 2012; Stephens et al. 2011).

Cross-References

► [Power](#)

References

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Social Cognition

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Synonyms

[Cognitive empathy](#); [Intentional stance](#); [Mentalizing](#); [Mindreading](#); [Social intelligence](#); [Theory of Mind](#)

Definition/Introduction

Humans have the ability to represent and understand what they themselves and others think, feel, believe, want, and know. This ability is traditionally called *Theory of Mind* (Premack and Woodruff 1978) and is sometimes also referred to as *intentional stance*, *mentalizing*, *cognitive empathy*, *social intelligence*, or *mindreading*. This ability can facilitate social interactions and promote prosocial behavior by helping to connect to others' mental states and intentions. Under certain conditions it may, however, also be a

source of bias and misunderstanding. Individual differences are reported in many psychiatric conditions but manifest also in phenomena like dehumanization and anthropomorphism. Perspective getting or cultivation practices of empathy and compassion pose promising approaches to improve the ability to represent and understand other minds.

The Broad Term of Social Cognition

In the past, many psychologists have described *social cognition* as the domain that concerns how we perceive, analyze, interpret, remember, and use information from our social environment (Baron and Byrne 1987). These capacities have been discussed in the literature, for example, in terms of social perception (i.e., face and voice processing), impression formation (i.e., personality trait ascriptions), social priming, memory processes (i.e., cheater memory), social judgment and decision-making (i.e., moral dilemmas and economic games), group phenomena (e.g., social conformity), social self-conceptualization and self-awareness, social heuristics, social categorization, stereotypes, and prejudice. The hallmark of *social cognition* is that its objects are social, it is influenced by the (imagined) presence of others, and it is socially shared. Processes aimed at representing and understanding others, as well as reasoning about the thoughts and feelings of others as manifested in *Theory of Mind* or *empathy*, are however still underappreciated in the notion of *social cognition*.

What Entails the Representation of Others' Minds?

Representing others' minds entails inferring or attributing mental states to others. Such mental states may be knowledge, beliefs, feelings, intentions, or desires. Cognitive processes that fall in place during the representation of other minds are, for example, belief and desire reasoning but also perspective taking. Affective processes that unfold during mentalizing include empathic joy and compassion but also phenomena like empathic anger or moral outrage (Hechler and Kessler 2018). These processes lead to particular

behaviors in a social context, which can be interpreted as prosocial or antisocial. Behaviors that are typically viewed as prosocial have positive effects on others and include sharing, cooperating, or helping. Behaviors interpreted as antisocial typically have negative effects on individuals and include social withdrawal, anger, or aggression.

The first theoretical frameworks around the psychological processes that enable human beings to think about other people's minds and share other people's emotions have been postulated to be (1) inferential in nature and as such resemble those that are involved in constructing a scientific theory (*theory theory*) and (2) simulative – where humans imaginatively put themselves “into the shoes” of another person (*simulation theory*). Both approaches (*theory theory* and *simulation theory*) have been criticized for failing to provide a sufficient theoretical framework for social interaction understanding. Instead, pluralist theories have been put forward as more promising (e.g., Fiebich and Coltheart 2015). These theories propose that everyday social interaction understanding relies on a variety of domain-general and domain-specific social cognitive processes and mechanisms. They come into play to varying degrees depending on the given socio-situational context (e.g., person specifics and social identities of the involved agents, their personal and social relationships, current moods, and current perceptions).

A technical challenge that is of concern when studying the representations of other minds is the fact that social scientists often explicitly and repeatedly trigger the same process during testing in order to measure the concept of interest in a reliable and valid manner. However, this may elicit metacognitive processes (e.g., social desirability or a counter-reaction to assumed study objectives of interest), which can interfere with the desired process. A possible way around this issue is an approach in which the representation of the other's mental state is instead measured implicitly (e.g., by means of monitoring eye movements; Schneider et al. 2017). As such the representational processes can be captured in a more involuntary way.

The Consequences of Too Little and Too Much Representation of Others' Minds

Individual differences regarding the ability of representing others' mental states have been reported for many psychiatric conditions (Brüne and Brüne-Cohrs 2006). In terms of insufficient mental state representations, the autism spectrum disorder is surely one of the most prominent. Most relevant for this condition are the cognitive, rather than affective, aspects of mentalizing. The exact opposite pattern is manifested in individuals with an antisocial or dissocial personality disorder (sometimes also referred to as psychopaths). Psychopathic individuals develop typically good cognitive mentalizing abilities, but lack affective sharing with others. Another psychiatric condition in terms of altered mentalizing abilities is the borderline personality disorder, which is most likely related to impairments in both cognitive and affective aspects of mentalizing. Moreover, many symptoms related to schizophrenia (e.g., delusions of alien control and persecution; the presence of thought and language disorganization) may best be understood in light of a disturbed capacity in patients to relate their own intentions to executing behavior and to monitor others' intentions.

There are also meaningful phenomena observed in neurotypical individuals when it comes to representing minds of others too much or too little. When representing another person's mental states too little, psychological distance can easily occur. The worst outcome of this is to be seen when there is a representation of other humans as less of a person (i.e., dehumanization of others; Haslam 2006). Dehumanization may lead to the treatment of others as either animal-like (i.e., having less agentic traits such as rational thinking) or machine-like (i.e., having less experiential traits such as feelings). On the contrary, when representing others' mental states too much, neurotypical individuals easily anthropomorphize shapes or human-like designs via ascription of motives, feelings, intentions, and desires.

The Most Common Mistakes When Representing Others' Minds

During childhood and throughout adolescence, people learn that their own mental states and

those of others do not necessarily converge (Piaget and Inhelder 1956) and that the distinction between oneself and others is important to successfully infer others' mental states. As such, it is not surprising that even in adults the most common sources of error when attempting to represent and understand others is to be *self-centered* and to *use egocentric views* (i.e., based on own experiences, beliefs, attitudes, emotions, knowledge, and visual perspectives) as an anchor. Self-centered motives, as particularly prominent in the case of narcissistic personality traits, foster a focus on self-other differences (Ohmann and Burgmer 2016), thereby promoting one's sense of uniqueness at the cost of greater social distance.

Another source of mistakes when trying to represent and understand others is an *exaggerated reliance on stereotypes* about the category a target person may belong to (e.g., a woman, an older person, a person of darker skin color). Relying too much on stereotypical thinking (e.g., women cannot park cars) bears the danger of searching for confirmation of one's own assumptions rather than actually representing others' mental states. This is particularly the case when it comes to representing the mental states of larger groups where it is hard to sample every individual in order to form an understanding of the others (e.g., political parties, religious groups, ethnic/national groups, age groups, gender groups, or occupational groups). Here, to a certain extent, reliance on averaged information about the group is necessary. However, relying on this averaged information too heavily entails the risk of exaggerating differences and possibly fuelling an imagination of extremes of mental states that actually do not exist.

The third mistake that occurs when people think of other thinking people is an *over-interpretation of actions*, sometimes also referred to as the fundamental attribution error. When watching others' actions, one easily infers corresponding thoughts, beliefs, preferences, and attitudes that may have caused a certain behavior. In certain circumstances this makes a lot of sense because actions can be a very good indicator of corresponding mental states (e.g., the motives and intentions of another person). At the same time, actions can also be very misleading because the

contextual forces and constraints that guide actions are often not visible (e.g., socioeconomic factors). As such, understanding the influence of such constraints on others' behavior (e.g., economic constraints of people with lower incomes when it comes to buying healthy food) is necessary when planning interventions (e.g., promoting healthy eating habits).

Taken together, although an *egocentric point of view*, *stereotypes about others* and *interpretation of others' observed actions* can provide quite accurate heuristics when it comes to understanding others; they may also introduce biases due to oversimplification.

What Might Improve the Correct Representation of Other Minds

In order to improve the understanding of others' mental states, it has been suggested to employ perspective taking (i.e., the ability to imagine oneself in another person's situation) or to improve person perception (i.e., the ability to read facial cues or bodily gestures). Both approaches have intuitive appeal. Perspective taking seems the go-to remedy when considering an egocentric, self-centered processing style. Also, when the aim is to find out whether or not somebody is really telling the truth, subtle cues of bodily gestures might give it away. However, when the target of mental state representation poses a self-threat or when people are already socially motivated to read others' minds from their body language or facial expressions, these approaches are not the best.

Alternative strategies that may improve insights into the mental states of others are to get perspective, rather than having to take it. This may be achieved by directly asking people about their knowledge, beliefs, feelings, intentions, or desires and then verifying that this was understood correctly. This strategy obviously depends on the willingness of the other to openly share his/her true mental states. Other approaches that may facilitate the understanding of others and in turn may improve cooperation in conflict-prone interpersonal and intergroup contexts rely on the cultivation of empathy or compassion (e.g., feelings of benevolence toward all human beings; Klimecki 2019).

Conclusion

Representing and understanding others' minds through processes like *Theory of Mind* and *empathy* entails the inference or attribution of mental states to others. Consequences are often manifested in prosocial or antisocial behaviors. Pluralist theoretical frameworks have integrated traditional inferential and simulative approaches and provide high explanatory power for everyday social interaction understanding. New technologies allow social representational processes to be captured in less confounded ways. In many psychiatric conditions, alterations of the ability to represent others' mental states have been reported. Further, in neurotypicals phenomena like dehumanization and anthropomorphism are well documented when representing another's mind too little or too much, respectively. Biases and oversimplifications may occur through the reliance on egocentric viewpoints, stereotypes, and overinterpretation of actions. Improving the representation and understanding of others' minds might be possible with approaches of perspective getting or cultivation practices of empathy or compassion. Taken together, the concepts of reasoning about, representing and understanding others are essential when referring to *social cognition*.

Cross-References

- ▶ [Autism Spectrum Disorder](#)
- ▶ [Empathizing-Systemizing Theory](#)
- ▶ [“Reading the Mind in the Eyes” Test \(RMET\), The](#)
- ▶ [Theory of Mind](#)

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Social Comparison Theory

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Definition

Social comparison theory concerns the psychological processes by which individuals compare themselves to other people.

Introduction

Social comparison has been a continuously active research topic in social and personality psychology since 1954. Over time, one initial theoretical article developed into a broader field with links to social cognition, individual differences, developmental psychology, and experimental social psychology. The overarching concerns are to examine how people make social comparisons, why they make them, to identify who makes comparisons, and the effects of those comparisons. This entry addresses the key historical and current issues in

social comparison research, draws together research on individual differences in social comparison, and identifies links between social comparison and thinking about personhood. We finish with a brief discussion of research measures and related topics.

The Initial Formulation

The initial theory of social comparison explored the manner in which social comparisons occur in informal groups and how such comparisons lead to group uniformity (Festinger 1954). This theorizing involved a series of nine hypotheses, many of which formed the basis for future research. In brief, Festinger argued that comparisons arise under conditions of uncertainty, when one's own abilities or opinions are not and cannot be known in isolation (e.g., "How correct is my opinion?" "Am I smart?"). For abilities, people should tend to compare themselves to others who are slightly better (called the unidirectional drive upward), while for opinions people should compare themselves to similar others. These comparisons, undertaken by the group, will lead to increased attention to and pressure on individuals who deviate from the majority, and the eventual expulsion (or ostracism) of those who refuse to change. While much of this Lewinian-based work has stood the test of time, research on social comparison has moved to a broader frame.

Current models of social comparison expand beyond Festinger's initial group setting and divide the broader process of social comparison into four parts: who people compare with, why they compare, the effects of those comparisons, and who is likely to compare. Research has similarly been extended to variables other than ability and opinion, including mood, self-esteem, performance satisfaction, future career intentions, and future performance intentions. We now review each facet of this process with reference to meta-analytic results by Gerber et al. (2018).

With Whom Do we Choose to Compare? (Target Selection)

The initial empirical work on social comparison (included in the first *Journal of Experimental Social Psychology* supplement of 1966) largely concerned comparison selection, the "with

whom” of comparison. With this empirical work came the rank order paradigm (Wheeler, 1966), a now-classic laboratory manipulation in which participants are given a test and told their score (usually a nonanchored score such as 410) and rank (usually 4th out of 7 participants) and are then given an opportunity to select the rank of a participant whose score they wish to view. Thus, the participant may make an upward comparison (to someone ranked higher than them) or a downward comparison (to someone ranked lower than them). Sometimes, people are allowed to choose more than one target.

Selection can also be assessed by diary methods, where people write down, usually on a daily basis, those with whom they compare in their daily lives. Retrospective interviews have also been used, although such interviews are less immediate and subject to recall bias.

Selection studies suggest that people tend to compare upward (rather than downward) on ability measures at a ratio of approximately 2:1 in the lab, but closer to 1:1 in the field. Threat leads to slight increases in the number of downward comparisons, but the inclusion of a lateral target removes this trend, suggesting that threatened people prefer similar targets more than downward targets.

Festinger hypothesized that people are most likely to choose a target close in ability to compare to, rather than a distant target, a finding confirmed in the literature. Similarity is easy to determine in a rank order paradigm but harder in real life. How can one choose a similar target before making the comparison? The *related attributes* hypothesis (Goethals and Darley 1977) suggests that people select a target by first assessing them on attributes related to the comparison in question. For example, a high school student might choose someone of similar age and schooling for a comparison of intelligence because schooling and age are related to intelligence. The related attributes hypothesis was derived from attribution theory and further suggests that we choose dissimilar targets when trying to validate our opinions. It means more if my enemies agree with me than if my friends do.

Why Do People Compare?

From its inception, social comparison drew upon the Lewinian topological tradition within social

psychology. As such, initial studies sought to manipulate situations to explore the motivations for social behavior.

Festinger’s original theory emphasized the motive of self-evaluation and this motive is supported by people’s preference for near upward targets. Further evidence for self-evaluation motivation comes from the observation that comparison selections often focus on the extreme scores if the range is unknown (Wheeler et al. 1969).

Self-enhancement can also motivate social comparison. Downward comparisons – which may be more flattering to the self than upward comparisons but less informative – are more likely to occur when negative traits are examined, suggesting that people avoid self-knowledge to enhance themselves (Thornton and Arrowood 1966).

Self-improvement may also motivate social comparison, but there is little experimental research to prove this possibility. Instead, the best evidence for self-improvement motives comes from questionnaire measures.

However, the most influential motivational account is downward comparison theory (Wills, 1981). This theory suggests that people can feel less threatened, or better about themselves, by comparing with someone who is worse off than themselves, and that people who are threatened feel better for doing so. The evidence for downward comparison theory is mixed at best. Retrospective interview studies with breast cancer patients/survivors suggest that downward comparisons are common in this population but diary studies suggest similarity and upward comparisons remain common. Furthermore, contrary to downward comparison theory, experimental evidence suggests that people with high self-esteem make more downward comparisons than people with low self-esteem, although it may be the case that low self-esteem people have simply not learned the effective strategy of choosing downward comparisons.

Despite this range of evidence, motivations are often hard to fathom. If someone compares upward, is it for aspiration? Or is it for self-knowledge? Motivations are difficult to directly assess, ultimately making their determination difficult.

What Effect Does Comparison Have? (Reaction Studies)

The bulk of research on social comparison has examined the effects of comparison on individuals and the moderators of these effects. The classic design is the two-condition reaction study, in which participants are presented with either an upward target (someone better than them on the ability in question) or a downward target (someone worse than them on the ability in question). Use of a third “no-comparison” control group is less common but the evidence suggests upward and downward comparisons have equal effects, so little seems to have been lost in this omission.

The two-condition reaction study could reveal one of two major patterns: assimilation or contrast. In the most technical sense (Wheeler and Suls 2007), assimilation occurs when people shift their self-estimate closer to a target following the comparison, whereas contrast occurs when people shift their self-estimate away from the target. For example, consider the classic Mr. Clean study by Morse and Gergen (1970). Job applicants wait for an interview in the presence of a well (or poorly) dressed confederate. Assimilation occurs if the interviewee feels better about their prospects after waiting with Mr. Clean or worse about their prospects after waiting with Mr. Dirty. Contrast occurs if the participant feels worse about themselves after waiting with Mr. Clean or better about themselves after waiting with Mr. Dirty. Assessing this shift requires either a repeated measures design, matching on ability, or trust in random assignment but repeated measures and matching designs are rare in social comparison research. Instead, any two-condition up/down reaction design is conventionally taken to be evidence for a pre–post shift due to assimilation/contrast.

Reactions to comparison, with few exceptions, are contrastive, and not assimilative. Upward comparisons, relative to downward comparisons, lead to lowered ability estimates, mood, and self-esteem. Ways to heighten the contrast include making the comparison in situ and creating uncertainty by using novel dimensions for the comparison and/or giving false feedback to the participant on their abilities. The dominance of contrast is surprising given social cognition’s

emphasis on assimilation and it is fitting that the exception to this contrast rule comes from social-cognitive research. Priming similarity (either through priming tasks such as word unscrambling or via similarity inductions in the instructions) leads to assimilative responses to weak social comparison.

The most prominent model explaining these effects is the selective accessibility model (SAM, Mussweiler and Strack 2000). Under this model, individuals first make a judgment of overall similarity between themselves and a target. If the initial assessment is one of similarity, then confirmatory evidence of similarity is sought, and the comparer will move their ability closer to the target. If the initial assessment is one of dissimilarity, then evidence of dissimilarity is sought and the comparer will move their self-estimate away from the target. The known effect of similarity instructions and primes is consistent with this model because both should prime an initial holistic assessment of similarity.

There are other models of assimilation and contrast in social comparison. The GLOMO model (Förster et al. 2008) suggests global processing leads to assimilation, whereas local processing is contrastive. The identification-contrast model (Buunk and Ybema 1997) argues that identifying with a target leads to assimilation. None of these models engage as directly with the empirical conditions for assimilation, and only Festinger’s model is adequate for dealing with moderators such as in situ comparisons and false feedback.

In fairness, although the SAM does explain assimilation via priming, it does have difficulty dealing with the genius effect (Alicke et al. 1997; but see Brickman and Bullman 1977 for the germinal argument). In this effect, the implications of comparisons are discounted when the target can be construed as substantially different from the comparer. For example, an upward comparison to an intelligent college student will lead to contrast, but an upward comparison to Einstein may lead to assimilation, because Einstein is considered to be in a different category than the comparer. The SAM does not predict the genius effect. If anything, the SAM predicts greater assimilation for the college student (due to greater overall similarity) than for Einstein.

It is possible that both directions of social comparison have contrastive and assimilative effects. For example, Buunk et al. (1990) argue that upward comparisons could be hopeful or hurtful, and downward comparisons could be relieving or worrying. While this may be true, there are still general effects, and those are of contrast primarily, with assimilation occurring in only some instances.

Aside from the question of assimilation/contrast, reactions to social comparison can also be quantified along different types of outcomes: ability, self-esteem, and mood. Effects of social comparison are strongest for the ability in question. The effect sizes are smaller as the outcome moves further away from the ability estimate, with ability effects being stronger than mood effects, which are, in turn, stronger than effects on self-esteem.

There is little research looking at differences in dimensions of comparison. Work has focused on intelligence, appearance, opinions, and likely interpersonal success, but it is very difficult to make changes in these dimensions commensurate, limiting researchers' ability to draw meaningful comparisons between them.

Who Compares? (Individual Differences in Comparison)

There is comparatively less theoretical focus on individual differences in social comparison, perhaps because of the social psychological approach taken early on that focused more heavily on group processes. Nevertheless, there are many individual differences examined throughout the literature, only some of which are reviewed by Wheeler (2000).

(a) **Social comparison orientation.** Individuals differ in the frequency with which they compare with others, called *comparison orientation*. Comparison orientation is often assessed by the INCOM (Iowa-Netherlands Comparison Orientation Measure, Gibbons and Buunk 1999), and, in the appearance literature, by Thompson's Physical Appearance Comparison Scale (Thompson et al. 1991). Comparison orientation is associated with a variety of important psychological outcomes, including poorer wellbeing in widows (Semerjian and

Stephens 2007), lower job satisfaction (White et al. 2006), and a greater tendency towards multiple suicide attempts in black youth (Merchant et al. 2009). While most of these results have not been replicated or meta-analyzed, there is a consistent trend for people high in comparison orientation to both make more comparisons and for those comparisons to each have greater impact.

- (b) **Gender.** Gender differences in social comparison occur particularly with respect to appearance comparisons. Females with high comparison orientation (from high-school onwards) compare more frequently on their appearance than do males, and these comparisons are associated with low body satisfaction and increased eating disorders in females. For males, appearance comparison orientation gets focused on muscle-tone and leads to muscle-building behavior in a general (not differentiated as gay or straight) male sample, and higher body dissatisfaction in a gay sample. Males are more likely to live in hope that their bodies will change, while females are more likely to be depressed with their current state. Brassai et al. (2013) report that comparison orientation in boys is related to greater life meaning, perhaps because comparisons create a feeling of uniqueness that is more culturally sanctioned for boys.
- (c) **Age.** Comparisons change at the extremes of the life span. Social comparison is commonly observed from elementary-school age onwards (e.g. Ruble et al. 1976 – only Mosatche and Bragonier, 1981, have observed it in preschoolers), becomes more covert as children age (Pomerantz et al. 1995), and is less common in high-achieving children (Ruble and Flett 1988, although this changes in adulthood). In older age, temporal comparison (comparing to past selves) becomes increasingly important (Ferring and Hoffmann 2007).
- (d) **Self-esteem and dysphoria.** As reviewed by Wheeler (2000), the effects of self-esteem and depression on comparisons are mixed, although most evidence supports a cognitive (and not downward comparison) model, in that nondepressed and/or high self-esteem

people are more likely to make comparisons that result in better feelings. For example, those with high self-esteem are more likely to engage in downward comparisons than low self-esteem individuals. Again, although people benefit from downward comparisons, low self-esteem people do not seek them, whereas downward comparison theory argues that perceived threat leads to selection of downward targets. As Wheeler notes, people may not do what makes them feel best.

- (e) **The Big Five.** The Big Five personality factors show mixed relationships to social comparison. For example, higher neuroticism sometimes leads to better outcomes from downward comparisons (Wheeler 2000, p. 153), sometimes to no difference (Van der Zee et al. 1999), and sometimes to worse outcomes (Van der Zee et al. 1998). More consistently, extraverted people tend to compare downward more often, and agreeableness and openness are associated with better reactions to upward comparison.
- (f) **Values.** Personal values can also influence selection strategies. People focused on interpersonal communion are more likely to make comparisons that emphasize similarity with others (as compared to generalized differences with others), and people with values of agency tend to make more downward comparisons (better/worse; Locke and Nekich 2000).

What Does Social Comparison Say about Personhood?

Having talked about how individual differences affect social comparison, we now ask how social comparison affects our understanding of personhood and personhood. All people compare and are affected by comparisons. This accords well with relational models of personality, from Lacan to Sullivan to Klein. People do not know their abilities and opinions, reduce their feeling of threat, or enhance themselves by referring only to themselves. Instead, comparison plays a role in all these critical parts of personhood.

By and large, comparisons give us a window onto reality and hence to understanding of ourselves. However, there are two exceptions to this general rule. First, people are able to strain comparisons to suit themselves. For example, we can discount unfavorable comparisons (see the genius effect). Second, some people use comparison strategies that appear to be self-defeating, including people with eating disorders and people with depression.

Festinger's initial formulation of social comparison theory depended on a reality with no firm answers, a world in which intelligence, wealth, and attractiveness are comparatively, and not ultimately, known. While this may be true for some attributes, it is not true for all, and humans appear to wisely stop comparing when it is unnecessary. Hansson et al. (1982) studied Oklahomans living in Tulsa's floodplain and found that social comparison produced optimism among those who had never experienced a flood, but no effect for those whose house had been flooded in previous floods. Social comparison only helps until you actually have been flooded.

Scales for Social Comparison

There are many scales to measure aspects of social comparison.

- (a) **Orientation measures.** As mentioned above, the INCOM and PACS are commonly used to measure social comparison orientation.
- (b) **Appearance measures.** Apart from the PACS, Thompson et al.'s (1999) body comparison scale also measures how often people compare various parts of their body (e.g., face, arms) with others. O'Brien et al. (2009) have a scale that splits appearance comparison tendencies into upward and downward components.
- (c) **General reaction scales.** Allan and Gilbert's (1995) social comparison scale measures how people generally feel compared to others across a range of attributes. Van der Zee et al. (2000) report a scale measuring general tendencies towards identification and contrast

following upward and downward comparison.

- (d) **General motivation scales.** Sohn (2010) reports a 23-item scale assessing the motives for measuring social comparison. Tigges (2009) reports a 19-item scale assessing motives.
- (e) **Health.** Dibb and Yardley (2006) report a scale measuring social comparison in illness which assesses both motivations for comparing when ill, and the outcomes of those comparisons. Wilson et al. (1997) report a scale measuring the types of comparisons people with sickle cell anemia might make.
- (f) **Scales with partial relation to social comparison.** Efklides et al. (2003) have a life satisfaction scale for elderly people containing some items on comparisons to other people. Turner et al. (2003) reports a social thoughts and belief scale which has some items about feeling unattractive and unintelligent when in the presence of others. Smith et al. (2013) report a scale measuring the effects of social comparison on Facebook status updating. Adler and Fagley's (2005) appreciation scale has a social comparison subscale. The Interpersonal Orientation Scale, created by Hill (1987), has four subscales on affiliation motivations, one of which concerns preferences for affiliating in order to compare with others.

A Short Note on Stapel

Diederik Stapel, a fraudulent researcher, published some research on social comparison. Given the "replicability crisis" in psychology, one might reasonably wonder whether Stapel's work led to overstating the results in this area. Even with Stapel's fraudulent work included, there are almost no changes to meta-analytic results (Gerber et al. 2018). Stapel acknowledges faking his data so well that they did not stick out from the rank and file of other published research. This is not to say, however, that his theories were correct. Stapel's major theory (that implicit comparisons lead to contrast) is not supported by any research outside one of his own retracted papers.

Closely Related Concepts

1. Opinion change. Social comparison was originally formulated in the realm of ability and opinion comparison, but most of the work in the area has focused on abilities and not opinions. Opinion change has been researched more extensively in the persuasion literature.
2. Attractiveness and body image. The Physical Appearance Social Comparison Scale (Thompson et al. 1991) has encouraged the linkage of research on body image and social comparison theory. This research typically uses multiple magazine images (not single targets) typifying the cultural ideals for body shape and finds that such comparisons lead to contrast (feeling worse about one's own body), and are also associated with eating disorders. The difference between multiple comparisons and single comparisons is not widely studied.
3. The better-than-average effect. This effect is found when people compare themselves to an "average other." Comparisons to a single target can be distinguished both conceptually (an average other is not a real target) and empirically (Zell and Alicke 2009).
4. Relative deprivation. Relative deprivation occurs when people feel they are disadvantaged compared to others, with the other in this instance tending to be a group. Many studies have examined relative deprivation in the context of work and play, and home-life, but they do not use distinct comparison targets, and hence are probably not best construed as social comparison proper.
5. Big-fish-little-pond effect. Marsh and colleagues (e.g., Marsh and Parker 1984) have extensively found that smart children from small schools fare worse when they move to selective schools (where most children are highly intelligent). This is considered to be the result of multiple comparisons with peers.

Conclusion

Social comparison research has grown from a theory developed to understand group uniformity

into a broader experimental and observational field with robust experimental methods and scale measures. Although the individual differences implications of social comparison are less well-developed, the personhood implications are clear: we tend to compare when things are unknown, and cease comparing if firmer information is available.

Cross-References

- ▶ [Attitude Structure](#)
- ▶ [Better-than-Average Effect](#)
- ▶ [Lewin, Kurt](#)
- ▶ [Positive Body Image](#)
- ▶ [Social Comparisons \(Upward and Downward\)](#)

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Social Comparisons (Upward and Downward)

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Synonyms

Self/other evaluations; Social comparison theory; Upward/downward social comparisons

Definition

Social comparison refers to the processes by which individuals evaluate their own abilities, opinions, attitudes, feelings, physical features, accomplishments, or any other self-aspect in relation to other individuals and/or groups.

What Is Social Comparison?

Social comparison refers to the processes by which individuals evaluate their own abilities, opinions, attitudes, feelings, physical features, accomplishments, or any other self-aspects in relation to other individuals and/or groups (Festinger 1954; Gibbons and Buunk 1999; Lyubomirsky and Ross 1997). A critical element involved in social comparison is the motivation to better understand the self in relation to others. Indeed, motivation is at the center of one of the most highly celebrated social-psychological theories, first proposed in a seminal paper by Leon Festinger (1954), under the name social comparison theory.

Social Comparison Theory

In his now classic work, Festinger laid out nine hypotheses that described the conditions under which individuals are more or less likely to compare themselves with others, as well as the targets and the outcomes of those comparison processes. In describing the role of motivation, Festinger emphasized that individuals have an innate drive to form accurate appraisals of themselves, often preferring to rely on objective, nonsocial means for this purpose.

Comparisons made using objective, nonsocial means typically involve using established professionals as a benchmark against which to evaluate one's abilities or performance. For example, an aspiring singer, writer, or athlete might compare themselves against an experienced professional in a relevant domain, gauging their ability and/or performance in relation to that of the more established professional.

However, in cases where objective, nonsocial means are unavailable, Festinger proposed that individuals will seek to make comparisons with similar others. That is, in the absence of opportunities to make objective comparisons, individuals will attempt to identify others who are similar on dimensions such as gender, age, experience, and so forth, evaluating themselves against these similar others using more subjective criteria. Later

research clarified that individuals preferred to compare themselves with others who were similar in terms of characteristics both related to and predictive of performance for the specific dimension under evaluation (Goethals and Darley 1977; Miller 1982), and secondary dimensions including the target's level of experience, and whether they are a professional or an amateur (see Wood 1989 for a review). Importantly, Festinger (1954) noted that one's motivation to draw subjective comparisons with others tends to decrease as the differences between abilities, beliefs, and performance become more significant. Indeed, a substantial body of evidence indicates that in certain contexts people are motivated to exaggerate differences with others, particularly when highlighting these differences either protects or enhances self-esteem (Taylor and Lobel 1989; Wood et al. 1985). In other words, by exaggerating these differences and conceptualizing potential comparison targets as dissimilar to the self, individuals can protect themselves from hurt feelings by making the comparison less meaningful. Thus, contrary to Festinger's (1954) view that accurate self-evaluation was the purpose of social comparison, research suggests that in certain contexts social comparison can assume a biased, self-serving function.

Upward and Downward Social Comparisons

In the years following the introduction of social comparison theory, a wealth of research expanded Festinger's (1954) initial framework in several important ways. Underlying much of this research was a focus on the direction of comparison (upward vs. downward) and the various antecedents and consequences of social comparison in either direction. Given the ubiquitous role of social comparison in our day-to-day lives, it is possible that you have already engaged in comparisons in either one or both directions several times today. For example, you may have noticed that your romantic partner is outpacing you in your household chores or that you are outshining your peers in the workplace. These examples

highlight two basic types of social comparison. Upward social comparison refers to the processes by which individuals evaluate themselves against those perceived to be superior on a given dimension (as in the romantic partner example). This type of comparison is often made in an effort geared toward self-improvement, in that identifying others who outperform us may provide valuable information that in turn can help improve our own performance. Upward comparisons can also serve a self-enhancement function through assimilation with the target (Collins 1996; Taylor and Lobel 1989; Wood 1989). Identifying similarities (assimilation) between oneself and the target of an upward social comparison has been linked to feelings of positive affect. In contrast, downward social comparison refers to the processes by which individuals evaluate themselves against those perceived to be inferior on a given dimension (as in the peers example). When performing this type of comparison, often the focus is on self-enhancement in an effort to feel better about one's standing relative to others by contrasting oneself with an inferior target (Wood et al. 1985; Wood 1989; Wills 1981). That is, highlighting how one is superior to a target can enhance subjective perceptions of well-being.

Although in his original conception of social comparison theory, Festinger (1954) did not discuss self-improvement as a motivational force driving upward social comparisons, this idea is wholly consistent with his hypothesis that individuals possess a unidirectional drive upward with respect to evaluating their abilities against those of others. Despite this, early social comparison research often either assumed or predicted that, at least under conditions of psychological threat, downward comparisons were preferred and that upward comparisons were avoided due to their negative impact on self-esteem, subjective well-being, and mood (see Wills 1981, for a review).

However, later research indicated that these negative effects were moderated by one's expectations regarding the degree of perceived similarity to the target of comparison (Buunk et al. 1990). That is, the extent to which one appraised themselves as either different from (contrast effect) or

similar to (assimilation effect) a superior other was shown to be an important determinant of whether upward social comparisons led to positive versus negative outcomes on measures including self-esteem and mood (Buunk et al. 1990; Collins 1996).

In sharp contrast with early views regarding a preference for downward comparison among those facing psychological threat, Taylor et al. (1993) revealed that cancer patients indicated a clear preference for contact with and information about fellow cancer patients whose health was better rather than worse than their own. Moreover, the opportunity to hear stories about those in better health was found to have positive effects (e.g., feelings of happiness and optimism), whereas negative effects (i.e., anxiety, threat) were reported when hearing stories from less fortunate others. Similar patterns were found among patients enrolled in a cardiac rehabilitation program (Helgeson and Taylor 1993). This clearly suggests that upward social comparisons can have a positive impact on self-esteem, subjective well-being, and mood, even among those particularly sensitive to psychological threat.

Positive outcomes associated with upward social comparisons have also been documented in those seeking to lose weight. Research by Rancourt et al. (2015) found that overweight young-adult women reported increased diet- and exercise-related thoughts when making weight-focused comparisons against both thinner (upward comparisons) and heavier (downward comparisons) targets. Importantly, comparisons against thinner (but not heavier) targets also increased healthy exercise behaviors. Taken together, a growing body of evidence suggests that, contrary to earlier views regarding the negative consequences of upward social comparison, this form of self-other evaluation can sometimes generate positive outcomes. Whereas evidence indicates that upward social comparisons typically stem from both self-improvement and self-enhancement motives, considerable evidence suggests that the psychological processes underlying downward social comparisons rely primarily on self-enhancement motives (Buunk et al. 1990; Collins 1996; Wills 1981; Wood et al.

1985). The basic premise is that individuals can enhance their subjective well-being by contrasting some dimension related to the self against that of an inferior or less fortunate other. Research suggests that this form of comparison is elicited in response to negative affect, which is frequently invoked when individuals feel their self-esteem or subjective well-being is threatened (Taylor and Lobel 1989; Wills 1981; Wood et al. 1985). Indeed, under conditions of psychological threat, individuals often spontaneously compare themselves with disadvantaged or inferior others in an effort to bolster self-esteem.

For example, while conducting interviews with cancer patients, Wood et al. (1985) discovered that the overwhelming majority instinctively highlighted how their situation, although unfortunate, was preferable to those in a more advanced stage of the disease. However, although Buunk et al. (1990) replicated the tendency to make self-enhancing downward comparisons in a separate group of cancer patients, their data revealed that comparisons in this direction resulted in more negative affect than when patients made upward comparisons. As one might expect, the negative effect of downward comparisons on affect occurred more frequently for those with low (vs. high) self-esteem, and low (vs. high) perceived control. A separate study by Buunk et al. (1990) revealed similar patterns among individuals high in marital dissatisfaction. Taken together, these data suggest that the effects of downward social comparisons on self-esteem and affect can lead to either positive outcomes (via contrast effects) or negative outcomes (via assimilation effects) depending on how one appraises the situation (perceived control) and their level of self-esteem.

The Selective Accessibility Model

In the previous sections, we discussed assimilation and contrast effects and noted how several aspects of personality and motivation can influence these forms of social comparison. For example, recall that upward (downward) social comparison is more likely to be a negative

(positive) experience when contrasting rather than assimilating with a superior (inferior) target.

Contrast effects are more likely when individuals have low self-esteem, feelings of psychological distance from the target, and/or use a comparison standard that is not readily attainable (whereas the opposite of each variable predicts assimilation; Mussweiler 2001a). Although these moderators may seem disparate and disconnected, various theorists have raised ideas about how a common psychological mechanism might connect many moderators of social comparison.

For example, Mussweiler (2001b) proposed a model of selective accessibility to explain why contrast or assimilation would be more likely in certain situations, or given certain personality traits. Selective accessibility explains social comparison moderators by distilling them down to their effects on how people seek to test propositions that they consider.

Mussweiler argued that assimilation or contrast occur through a cognitive judgment of whether the self is like or unlike the comparison target and that these judgments are biased towards whatever information is currently accessible and salient. Because people are inclined to seek confirming rather than disconfirming evidence for their hypotheses, they are more likely to find evidence for (rather than against) whatever hypothesis they are testing. Thus, if they are seeking to test the proposition “I am like the target,” they will tend to be biased towards finding similarity, and assimilation occurs. The opposite is true if they test the proposition “I am unlike the target”; thus, contrast occurs. For example, because high self-esteem individuals tend to have highly accessible, positive self-information, they are more likely to think “I am like the target” if the target is an excellent performer, thus assimilating during upward social comparison. Feeling psychologically distant from a target leads to increased thoughts about dissimilarity, in which case contrast occurs because people test the proposition “I am unlike the target.” Thoughts about dissimilarity also lead to contrast if a comparison standard seems unattainable. Thus, Mussweiler’s approach can provide an elegant theoretical explanation for these seemingly disparate moderators,

unifying them within a single framework based on whether the self is like or unlike the comparison target.

Conclusion

Identifying perceived similarities and differences between the self and others is a ubiquitous social phenomenon that allows individuals to better understand not only themselves, but also others, and thus more successfully navigate their social world. This brief overview of the social comparison literature provides an introduction to a theory that, although having undergone many revisions over the years, at the core remains true to Festinger's (1954) original goal: identifying the processes by which individuals reduce uncertainty regarding some aspect of the self through making social comparisons with others.

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Social Connection

► Social Support Processes

Social Connection Seeking

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Definition

“Social connection seeking” is the motivated behavior of pursuing close relationships.

Individual differences in social connection seeking predict which people, and to what extent, will pursue close relationships with others.

Introduction

People seek social connection. They are motivated to form and maintain a minimum number of close, positive relationships throughout their lives (Baumeister and Leary 1995). When relationships inevitably end, either through death or dissolution, people often pursue new relationships. Indeed, the desire to connect with others, either in-person or online, is a pervasive human need with clear, evolutionary benefits for individuals and societies (Baumeister and Leary 1995). In addition, there are individual differences in the degree to which people seek social connection. For instance, some people strongly desire social support and emotional validation and thus are more likely to seek social connection than others. The current encyclopedia entry summarizes key literature from social and personality psychology regarding the following individual differences in social connection seeking – extraversion, belongingness needs, and affiliation motives. The current encyclopedia entry does not aim to be an exhaustive account of the literature or a complete listing of all individual differences related to social connection seeking. Instead, we present some of the most influential individual differences within social and personality psychology, as indicated by total citation frequency within Web of Science.

Extraversion

Extraversion is the most widely understood personality trait related to social connection seeking. It is one of the five most central personality traits – commonly referred to as the BIG Five – along with neuroticism (emotional stability), agreeableness, openness to experience, and conscientiousness. People high in extraversion tend to seek and enjoy the company of others (McCrae and Costa 1987). They direct their energy toward people and, therefore, tend to be

talkative and gregarious and are eager to attend parties, are predisposed to positive emotions, and are generally enthusiastic about social connection. Interestingly, extraverted people evaluate products, such as iPhones, more positively when they are marketed as tools for social connection rather than organization, safety, or openness to new experiences (Hirsh et al. 2012).

People low in extraversion – typically referred to as introverts – tend to be quiet, reserved, isolated, and prefer solitary experiences. As a result, introverted people tend to have smaller and less interconnected social networks than extraverted people. Interestingly, both introverted and extraverted people leave traces of their socially oriented lifestyle behind in their living spaces (i.e., behavioral residue; Gosling et al. 2002). Such behavioral residue can be used to accurately infer or profile a person's introverted or extraverted personality. Indeed, extraverted students who live on campus tend to have ample, comfortable seating in their dorm rooms and colorful living spaces which encourage other people to enter and stay for long periods of time. Introverted students have fewer, less comfortable seats and decorate in colors that are less welcoming to guests.

Social and personality psychologists assess extraversion in many different ways, including self-report measures, informant ratings, implicit association tests, as well as behavioral measures. Of the self-report measures, the NEO Personality Inventory (McCrae and Costa 1987) and the Ten Item Personality Inventory (Gosling et al. 2003) are commonly used. These measures ask people to rate the degree to which socially oriented statements are characteristic of themselves (e.g., I see myself as extraverted/enthusiastic). High extraversion scores positively predict a variety of cognitions and behaviors related to social connection seeking (see McCrae and Costa 1987).

Belongingness Needs

Some people have a greater desire to be accepted by, and belong to, social groups than others. Social and personality psychologists often assess such individual differences in belonging with the

Need to Belong Scale (NTBS; Leary et al. 2013). When completing the NTBS, people read and then indicate the degree to which ten statements are characteristic of themselves, using a five-point Likert-type scale ranging from 1 (*Not at all characteristic*) to 5 (*Extremely characteristic*). Example items include the following: “I try hard not to do or say things that will make other people avoid or reject me” and “It bothers me a great deal when I am not included in other people’s plans.”

Since its publication in 2013, the NTBS has been used to predict a variety of cognitive, emotional, and behavioral responses. For instance, people’s scores on the NTBS predicted their ability to accurately “read others” nonverbal behavior and thus meet their belongingness needs (Pickett et al. 2004). Indeed, it is important to accurately identify and remember social information because loneliness and isolation are risk factors for early mortality (Gardner et al. 2000; Holt-Lunstad et al. 2015). Knowing whether a party invitation was genuine and remembering the host’s address, for example, are vital to facilitating belongingness needs.

Furthermore, research suggests that individual differences in belonging, as well as temporary unmet belonging needs, predict the rate at which people use social media. For instance, people who score high, as compared to low, on the NTBS engage in more “social snacking” by reviewing online friends’ posts and pictures on Facebook (Knowles et al. 2015). This is especially true for people whose need to belong has been temporarily heightened, following a social exclusion or rejection experience. Interestingly, people with chronically unmet belongingness needs may also anthropomorphize – imbue inanimate objects with humanlike qualities – as a means of creating social connection (Epley et al. 2008). The lonely widow with a dozen friendly and compassionate cats or the person on a deserted island chatting with a volleyball may both be creating social connection as a means of meeting their high need to belong.

Affiliation Motives

Historically, sociability and other affiliation motives were used to predict social connection

seeking. In the 1930s and 1950s, respectively, Henry Murray and David McClelland argued that people need to affiliate with others. People are motivated to seek out warm, supportive connections with others as a means of emotional support. Indeed, people, as young as preschool children seek out interaction with their peers and other social groups for companionship and affirmative responses (e.g., smiling, laughing, warm contact; see Baumeister and Leary 1995). More recently, social identity and self-enhancement theories argue that people selectively affiliate (distance) themselves with positive (negative) groups to bolster and maintain a positive identity.

Conclusion

Although all people are social animals, some of us are more social than others. In the current review, we summarized three distinct individual differences in social connection seeking. First, we reviewed extraversion and its ability to predict socially oriented behavior. Second, we reviewed the need to belong and the desire to form and maintain a minimal number of close, positive relationships. Third, we reviewed affiliation motives and people’s desire to seek out emotionally supportive groups. In sum, these individual differences contribute a great deal to social and personality psychologists’ understanding of social connection seeking.

Cross-References

- ▶ [Social Exclusion](#)
- ▶ [Social Interaction](#)
- ▶ [Social Monitoring System](#)

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Social Constructionists

- [Standard Social Science Model \(SSSM\) of Personality](#)

Social Cooperation

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Definition

Interaction(s) among two or more actors, leading to the increased fitness of the parties involved.

Introduction

Cooperation has been considered an evolutionary conundrum, wherein according to evolutionary theory free-riders accrue greater individual payoffs in comparison to cooperators in social interaction (Dawkins 2006). This imbalance is considered to allow cheaters to invade a population, driving cooperative strategies to extinction. Socioecological pressures have also been found to promote the emergence of defection, as inter-individual interactions that involve cheating, manipulation, or simply lack of cooperative efforts have been found to be associated with unstable and unpredictable ecologies for which long-term investments (including investments in long-term cooperative relationships or community efforts) do not offer reliable rewards (Figuredo et al. 2006).

With the purpose of solving this biological conundrum, numerous perspectives have been developed in the last 50 years. These evolutionary explanations have been traditionally classified based on how individuals respond to cheating or defection (i.e., a partner refuses to cooperate or exploits the actions of others). Thus, for partner control models, free-riding is the main threat to cooperation, forcing actors to respond to defection by either punishing cheaters (i.e., retribution) or by defecting as well (Fraser 2013).

Alternatively, partner choice models focus on how individuals select and bargain with potential collaborators. For this perspective, defection is not considered a threat to cooperation, and neither punishment nor refusing to cooperate are responses needed to curb its occurrence (Fraser 2013). The following review will cover some of the current evolutionary perspectives developed under either partner control or partner choice models (e.g., indirect and strong reciprocity and biological markets).

Indirect Reciprocity

A general mechanism for the evolution of cooperation is for cooperators to positively assort themselves with other cooperators, therefore ensuring a larger payoff than lone free-riders can accrue. Indirect reciprocity is a mechanism for cooperative assortment wherein socially known reputations serve as the criteria for cooperation (Nowak and Sigmund 1998, 2005). To illustrate this, consider a hypothetical individual A. This actor can pay a cost to benefit individual B. Moreover, if this action is witnessed by individual C, C may use this information when deciding between numerous partners with which they can cooperate. If A cooperates with B, C then can opt for cooperating with A. However if in previous interactions A did not cooperate with B, C may then refuse to cooperate with A sometime in the future. In short, help those who help others.

With reputation present, natural selection can favor behavioral strategies for cooperation that consider the cooperative prestige of possible interactors. Individuals then will be motivated to cooperate with others in order to prevent accruing a negative reputation (Nowak and Sigmund 2005). In this way, the social exclusion of those with noncooperative reputations becomes a minimal-cost form of avoiding defection, and a way for cooperators to assort future interactions among themselves. Additionally, the role of reputation allows indirect reciprocity to occur in different domains. Thus, an individual refusing to cooperate with a prosocial partner will no

longer be considered as a prospective prosocial partner. However, if the same individual prefers not to cooperate with a defector, no reputational damage is suffered (Nowak and Sigmund 1998, 2005).

Theoretically, indirect reciprocity accounts for cooperation between individuals when they are unrelated. That is, strangers will cooperate with one another, as long as this interaction is observed and known by a subset of the population, and individuals gain some sort of reputation. However, it is still debated how increasing group size could make information less available and therefore reciprocity less critical in sustaining cooperative interactions (Boyd and Richerson 2005). A complexity of traits has been considered to underpin the emergence of indirect reciprocity. Thus, individuals may require multiple skills for recognizing the reputations of others. In humans, for example, linguistic exchange facilitates individuals in spreading and receiving gossip that affects how reputation is accrued (Nowak and Sigmund 2005).

Strong Reciprocity

Similarly to indirect reciprocity, this mechanism was also developed under a partner control framework and proposed to explain the occurrence of hypersociality in human groups. It has been described as the behavioral disposition to engage in cooperation and collective action, where those who cooperate are rewarded, and those who defect are punished (even in contexts when retribution produces a permanently negative outcome to the strong reciprocator; Bowles and Gintis 2013). Even though, punishment may be on its own a costly act, strong reciprocity can theoretically spread in a population if more cooperative groups are less likely to become extinct than less cooperative groups (Boyd and Richerson 2005). Furthermore, social cooperators have been thought to have social preferences, with individuals varying in their desire of allocation of payoffs to others rather than to oneself (Bowles and Gintis 2013). Consequently, even though strong reciprocators may have lesser

individual payoffs and outcomes than others, if their efforts ensure group survival, then this strategy can spread relative to other strategies in the group (Boyd and Richerson 2005).

The ubiquity of punishment during cooperative interactions has been estimated through mathematical simulations and experimental procedures. With respect to the latter, experiments have shown that even in one-shot interactions, some individuals will pay a cost to punish defectors taking advantage of other players (Fehr and Fischbacher 2004). Experimental economic games (e.g., the ultimatum game) conducted in a cross-cultural setting have also concluded that humans are not universally rational self-interested economic maximizers (Henrich et al. 2005).

Nevertheless, though purported to evidence, the plausibility of strong reciprocity to explain cooperation do not systematically or explicitly disallow for benefits to the individual or to inclusive fitness.

Biological Markets

Differently from partner control models, Biological Markets theory (BM) was developed by adapting principles of sexual selection theory to cooperative interactions (Noë and Hammerstein 1995; Noë et al. 2006; Noë 2006). However, in contrast to either intra or intersexual selection, individuals were predicted to search and choose cooperative partners instead of mates. In addition, competitors were considered to outbid each other by offering commodities to choosing individuals, rather than competing aggressively for mating opportunities (Noë et al. 2006). Actors were also predicted to freely abandon deceitful partners and switch to more collaborative interactions (even after defection; Noë 2006).

Since defection is not a significant destabilizer of cooperation due to the mobility and selection of actors, according to BM other factors are needed to be considered as moderators of types

of cooperative relationships between actors. For example, individuals may incur sampling costs when searching for partners instead of allocating time and energy to other activities (Noë 2006). If costs of searching are considerably high, cooperators may either refuse to cooperate or choose the next available partner regardless of the quality of the commodity offered. Similarly, temporal discounting (i.e., discounting the future) also influences the type of relationships cooperators develop. Thus, individuals could prefer to collaborate immediately with partners offering a low value commodity, instead of waiting for other partners providing commodities of higher value in the future (Noë 2006).

Moreover, according to BM, the value of commodities varies according to laws of supply and demand, a phenomenon known as market effects (Noë et al. 2006). As a result, commodities in high demand but low supply have higher values, compared to goods and services that are common in the market but that are not highly demanded. Hence, providers need to assess the value of the commodities offered in relation to those provided by other individuals. The difference in supply and demand creates power asymmetry among parties, which itself is transformed into pay-off imbalances during cooperation. Even though originally, BM considered goods or services to be inalienable, allowing auctioneers exerted leverage during exchange interactions. More recent formulations do consider the coexistence of leverage along the use of coercion for access to commodities (Barrett and Henzi 2006).

The honesty of communication is another element influencing partner choice. Thus, before initiating a cooperative interaction, partners need to determine if the advertised quality of the commodity is accurate (Fraser 2013). Costly signaling theory addresses how individuals assess the honesty of signals. According to this perspective, the content of communicational signals is vulnerable to manipulation by the sender. Hence, for BM, individuals may fake the quality of commodities provided. Consequently, an individual can avoid receiving deceptive information by attending exclusively to signals that are costly to produce,

hence, the higher the costs, the more reliable the information (Fraser 2013).

In addition, by accepting the high costs of production, an individual not only transmits the content of the signal (e.g., the quality of the good or service offered) but the display also gives information to rivals, potential mates, or allies about the individual itself. Therefore, when an auctioneer has to choose between two bidders, the higher the cost paid by one of the dealers, the more reliable the signal will be (Fraser 2013). Moreover, in others circumstances, the auctioneer may require additional guarantees before cooperating with the bidder (Fraser 2013). Due to this, bidders may have to demonstrate their commitment to cooperate by investing in unrelated activities.

Conclusion

Contemporary approaches to the evolution of cooperation have been developed according to the degree through which defection (refusing to cooperate or exploiting others) interferes with prosocial interactions. Thus for partner control perspectives, the response to defectors is either by means of individuals refusing to cooperate after defection or by active punishment. On the other hand, for partner choice models, free-loading is not a threat to collaborative exchanges, but rather individuals are selected as cooperative partners based on the type and quality of commodity offered. It is important to mention that even though these traditions have been repeatedly considered as theoretically distinct, more nuanced perspectives are currently adopting both partner control and partner choice models. According to these recent formulations, partner choice is a necessary stage before the occurrence of any cooperative interaction, whereas punishment or rejection of cooperation is considered mechanisms that act after defection has taken place. Only future examinations will determine if this reconciliation is theoretically and empirically plausible.

Cross-References

- ▶ [Altruism](#)
- ▶ [Reciprocal Altruism](#)
- ▶ [Social Adaptive Problems](#)
- ▶ [Social Interaction](#)
- ▶ [Social Selection for Human Altruism](#)

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Social Defensive Strategies

- ▶ [Submissiveness](#)

Social Desirability Response Style

- ▶ [Socially Desirable Responding on Self-Reports](#)

Social Devaluation

- ▶ [Rejection](#)

Social Dominance

- ▶ [Social Dominance Orientation and Social Dominance Theory](#)

Social Dominance Orientation

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Definition

An individual difference variable tapping generalized support for group-based inequality and hierarchy.

Introduction

Following the carnage of WWII, social scientists became heavily invested in explaining intergroup relations (and prejudice in particular). One early

influential approach involved the measurement and study of individual differences, especially authoritarianism (Adorno et al. 1950; Allport 1954). In brief, researchers established that some people, relative to others, are more likely to be ethnocentric in orientation and express prejudices toward a range of groups (e.g., Blacks, immigrants, Jews). Central to the concept of authoritarianism generally, and right-wing authoritarianism (RWA; Altemeyer 1996) in particular, was the recognition that some people are predisposed toward being (a) submissive and obedient toward authorities (e.g., church leaders, parents), (b) conventional and traditional (e.g., valuing customs and rituals), and (c) aggressive against those violating such norms. This focus captured the socially conservative aspects of authoritarianism very well but neglected the more dominative side, essentially telling only half the story. Indeed, Adorno (1951, p. 291, footnote 25) had long proposed that “German folklore has a drastic symbol for [authoritarianism]. It speaks of *Radfahrernaturen*, bicyclist’s characters. Above they bow, they kick below.” This metaphor captures the notion that authoritarianism reflects both subservience (hence the *bow*) and dominance (hence, the *kick*) (see Hodson et al. 2017). Prior to the 1990s, the kick was notably absent from the literature (see Altemeyer 1998).

This conceptual shortcoming was remedied when Jim Sidanius, Felicia Pratto, and colleagues introduced the notion of social dominance orientation (SDO; see Pratto et al. 1994; Sidanius and Pratto 1999). This new construct was subsequently dubbed “the other authoritarianism” (Altemeyer 1998), heralding a reintroduction of the “kicking” aspect of the authoritarian bicyclist. SDO focuses on dominance and is characterized by higher endorsement of intergroup inequality and hierarchy. As such, the construct is now widely recognized as one of the strongest and most important individual difference predictors of prejudice (e.g., Altemeyer 1998; McFarland 2010; Sibley and Duckitt 2008) and a critical aspect of “generalized authoritarianism” (Hodson et al. 2017; see also MacInnis et al. 2013).

Operationalization of SDO

The SDO construct was developed within the broader context of social dominance theory (Pratto et al. 1994, 2006; Sidanius and Pratto 1999). This multilevel theoretical framework recognizes that most societies throughout history have been hierarchically organized, with systems of control enforced by dominant groups. At the highest level, cultural values and institutions shape society in directions that enhance the social value of the dominant (or advantaged) groups at the expense of subordinate (or disadvantaged) groups. But individual-level processes are also proposed to operate, with measureable and meaningful interindividual variation observed. Specifically:

SDO is defined as a very general individual difference orientation expressing the value that people place on nonegalitarian and hierarchically structured relationships among social groups. It expresses general support for the domination of certain socially structured groups over other[s]... regardless of the manner in which these groups are defined. These groups may be defined on the basis of race, sex, nationality, ethnicity, religion, social class, region, skin color, caste, lineage, tribe, minimal groups, or any other group distinction that the human mind is capable of constructing. Individuals differ in the degree to which they desire group-based inequality and dominance. ... (Sidanius and Pratto 1999, p. 61).

Critical to this operationalization is the absence of reference to specific target groups (e.g., gay people; Muslims; feminists) in the scale items, setting SDO apart from many individual difference constructs common in the prejudice field. Consider these sample SDO items: “some groups of people are simply inferior to other groups,” “group equality should not be our primary goal (reversed),” and “some groups of people must be kept in their place” (Ho et al. 2015).

As with the authoritarianism construct that shaped its development, SDO is widely recognized as a very strong predictor of a variety of prejudices (e.g., sexism, racism, anti-gay prejudice) and also of generalized prejudice tendencies (i.e., being prejudiced toward multiple out-groups simultaneously) (Duckitt et al. 2002; Ekehammar

et al. 2004; Hodson and Costello 2007; MacInnis and Hodson 2015; Sidanius and Pratto 1999). RWA and SDO typically predict prejudice independently and together can explain an impressive 40–50% of the variance in prejudicial attitudes between individuals (Altemeyer 1998; McFarland 2010).

Origins of SDO

The developmental causes of SDO are understudied. However, within the social dominance theory framework (Pratto et al. 2006; Sidanius and Pratto 1999), four key factors are postulated to elevate levels of SDO. The first involves group status or position. Put simply, those in more dominant groups tend to score higher in SDO relative to those in disadvantaged groups (although this does not mean that one cannot score high in SDO as a member of less powerful groups). Theoretically, those in higher-status groups have greater access to prestige and resources and thus have a particular interest in maintaining hierarchical relations. Second, men (vs. women) generally score higher in SDO (referred to as the *invariance hypothesis*). Historically this has much to do with divisions of labor, many of which remain, in ways that privilege men and make them particularly invested in ideologies like SDO that normalize power differentials. Such sex differences have clear implications. For instance, much of the reason that men (vs. women) are particularly prejudiced toward gay men is explained by men being higher in SDO, which itself predicts greater prejudice toward gay men through greater sexism (MacInnis and Hodson 2015). Third, socialization processes such as those within home environments and present in cultural norms are conceptualized to develop and foster SDO, although these processes are not well understood, and recent evidence draws this notion into question (see below). Fourth, social dominance theory posits that personality and temperament influence SDO levels. For example, SDO is associated with lower empathy (Bäckström and Björklund 2007;

Hodson 2008; McFarland 2010; Pratto et al. 1994). Within the Big Five factor space, SDO is most consistently associated with lower agreeableness and lower openness to experience (meta-analytic r s = $-.29$ and $-.16$, respectively; Sibley and Duckitt 2008). Within the HEXACO personality space, SDO is most strongly associated with lower honesty-humility ($r = -.24$, Sibley et al. 2010), meaning that SDO is associated with greed, deceit, and boastfulness. In keeping with such findings, greater SDO has also been associated with greater narcissism, Machiavellianism, and psychopathy (i.e., the so-called Dark Triad; see Hodson et al. 2009).

Others have posited that SDO has origins in competitive cultural worldviews (e.g., Duckitt et al. 2002), that is, the belief that the world is competitive and dog-eat-dog. Findings that SDO may be rooted in more basic personality and competitive worldviews are consistent with recent evidence that SDO possesses a significant and sizeable heritable (i.e., genetic) component (e.g., Stöbel et al. 2006). In fact, acceptance of inequality (the essence of SDO) has a significant heritable component but little socialization effect (Kandler et al. 2012). Such innovative investigations offer promise for better understanding in the origins of SDO and thereby informing intervention strategies.

Correlates of SDO

Aside from the correlates previously mentioned (e.g., sex, group status, racism, personality), SDO correlates with a range of other constructs, many of which are also relevant to understanding prejudice. Most notably, RWA and SDO are intercorrelated (meta-analytic $r = .37$; Sibley and Duckitt 2008). Those higher in SDO also tend to be higher in interpersonal (Hodson and Costello 2007) and intergroup (Hodson et al. 2013) disgust sensitivity, along with intergroup anxiety (Hodson 2008), intergroup threat (Hodson et al. 2009), out-group dehumanization (Costello and Hodson 2011; Hodson and Costello 2007), and subjective ambivalence toward gay people (Hoffarth and Hodson 2014). Of considerable importance, SDO is a strong predictor of

prejudices generally (meta-analytic $r = .55$; Sibley and Duckitt 2008). In fact, because SDO is often correlated with prejudice and other related constructs, researchers have explored whether SDO might be the common cause or root explaining why other ideologies and prejudices themselves intercorrelate. Indeed, as an individual difference, SDO explains why conservatism is correlated positively with racism (Sidanius et al. 1996) and explains why speciesism (i.e., willingness to exploit nonhuman animals for human purposes) is correlated with ethnic prejudice (Dhont et al. 2014a; 2016). That is, social dominance orientation systematically underpins and connects many other ideologies and prejudices in ways that highlight the central importance of dominance motives in intergroup relations. For a more detailed analysis and summary of associations between SDO and prejudice or intergroup-relevant outcomes, see Sidanius and Pratto (1999).

Relevance of Hierarchy Enhancement (vs. Attenuation) and Legitimizing Myths

Overall, those higher in SDO are invested in, and motivated by, hierarchy enhancement. Likewise, such persons are disinterested in, or even work against, hierarchy attenuation (see Pratto et al. 2006; Sidanius and Pratto 1999). Whereas some professions (e.g., military, policing) are more focused on hierarchy enhancement, others (e.g., education, civil rights groups) are more focused on hierarchy attenuation. Accordingly, those higher in SDO not only select themselves into situations and professions characterized by hierarchy enhancement, but are selected for by such organizations/institutions, and are then socialized in ways that fortify or entrench an emphasis on hierarchy and dominance (Pratto et al. 1994; for review, see Haley and Sidanius 2005). In this way, SDO is both *shaped by* and *shapes* the social context.

According to social dominance theory, hierarchy enhancement goals and objectives are realized or met largely through the functioning of *legitimizing myths*, “[the] attitudes, values, beliefs,

stereotypes that provide moral and intellectual justification for the social practices that distribute social value” (Sidanius and Pratto 1999, p. 45). Such myths can take many forms, including various “isms” (e.g., racism, sexism), but also value-based expressions such as the Protestant work ethic or negative stereotype endorsement (e.g., members of group X are lazy). Such beliefs essentially grease the machine of SDO expression, such that SDO enhances belief in legitimizing myths which in turn enhance discrimination/hierarchy-enhancing policies. These legitimizing myths are therefore critical in maintaining and “justifying” systems of inequality and oppression, generally normalizing the status quo and/or deepening social stratification. So central are these myths that SDO is posited to operate on policy positions (e.g., opposition to affirmative action) *through* legitimizing myth endorsement. Indeed, the potency of a legitimizing myth is gauged by its ability to serve this role (Sidanius and Pratto 1999). These myths can involve direct or indirect efforts to minimize the perception of harm to others. For example, those higher in SDO endorse *cavalier humor beliefs* (e.g., “jokes are just jokes”) in ways that facilitate the perception that specific disparaging out-group jokes are inoffensive (“harmless”) or amusing, which in turn perpetuates prejudices toward the disparaged out-group (Hodson et al. 2010). Those higher in SDO also boost their perception of out-groups as animal-like when that group poses a symbolic, non-tangible threat, as a justification for expressions of prejudice and unwillingness to assist that group (Costello and Hodson 2011). Such examples highlight how SDO, as an individual difference, is sensitive to contextual factors, drawing on legitimizing myths to justify the expression of dominance motives against other groups.

Reducing SDO or Its Consequences on Intergroup Outcomes

Most of the theorizing and research to date highlights the largely negative nature and consequences of SDO. With SDO having strong roots in personality, cultural worldviews, and even genetics (see above), does this mean little can be

done to reduce the effects of SDO or to lower SDO itself? This particular research domain is particularly a rich terrain for future research, as little is known about these questions. However, recent research on intergroup contact has proven particularly promising, capitalizing on the finding that on average more contact between people of different groups results in more positive or favorable attitudes toward that group (Allport 1954). Despite initial concerns and pessimism about the benefits of contact among prejudice-prone persons, greater contact and/or friendship between groups are effective even among, and often especially among, those higher in SDO (Hodson 2008, 2011).

Such findings speak to minimizing the effects of SDO on prejudice, but other researchers have addressed whether contact can itself lower one’s level of SDO. Recent research (Dhont et al. 2014b) tested this potential using a pretest-posttest contact-based intervention among high school students (Study 1). Following a contact intervention, levels of SDO were significantly reduced relative to pretest levels. Positive contact quality was particularly responsible for strengthening this effect, rather than contact frequency. A subsequent analysis among a large adult sample over time (Study 2) confirmed that more intergroup contact at Time 1 lowers SDO at Time 2. Together, contemporary research demonstrates not only that greater intergroup contact works *among* those higher in SDO by reducing their prejudices but that greater contact itself *lowers SDO levels*. Such findings provide insights not only for the development of intervention strategies but also provide insights into the natural development of SDO. That is, if greater contact can lower SDO, then it is feasible (if not likely) that lower levels of contact and/or poorer quality of contact promotes higher SDO developmentally.

Nuances and Conceptual Clarifications

In the earlier accounts of SDO, *in-group* dominance was emphasized. For instance, SDO was operationalized as “. . .the extent to which one desires that one’s in-group dominate and be

superior to outgroups” (Pratto et al. 1994, p. 742). Even these early writings, however, nonetheless stressed SDO as the endorsement of a general, non-group-specific orientation. Indeed, later writings clarified that SDO concerns the preference for intergroup inequality “... regardless of whether this implies ingroup domination or subordination” (Pratto et al. 2006, p. 282). Subsequent researchers have further clarified this point, removing the possible confound of in-group dominance, showing that those higher in SDO yet in disadvantaged groups exhibit lower (not higher) identification with their group (Ho et al. 2015).

Another common misconception is that SDO is postulated as a necessary cause of hierarchy. Those developing the construct, however, are clear to stipulate that SDO is a “tool” for studying social dominance and hierarchy, in ways that do not put it at the heart of causing inequality per se (see Pratto et al. 2006). Thinking of SDO in this manner offers valuable insights into prejudice. As observed by Pratto et al. (2006), when particular group categories are made salient (e.g., a racial group or a sexual orientation group), SDO becomes a stronger predictor of prejudice toward that group in a manner that rationalizes or normalizes the inequality between the groups. For example, when race is made salient among Whites, one can expect SDO correlations with antiblack prejudice to strengthen, with the relevance of the ideology and the group attitude accentuated. In this way, “SDO is a good barometer not only for measuring individuals’ support for hierarchy, and the functional nature of legitimizing myths, but the salience of the hierarchy in social context as well” (Pratto et al. 2006, p. 292). The measurement of SDO (and its relation to other intergroup-relevant constructs) can therefore refine our understanding of the intergroup dynamics at hand in a given context.

A more recent development with regard to the SDO construct concerns its structure. Historically considered a primarily unidimensional variable, the latest version (SDO₇) directly assesses two correlated but somewhat distinct SDO factors (Ho et al. 2015). SDO-Dominance taps the more dominative aspect, where higher scores reflect

support for high-status groups using force to oppress groups with lower status or power. This factor correlates well with old-fashioned and more overt prejudices, the use of aggression, etc. SDO-Egalitarianism taps antiegalitarian sentiments, specifically inequality, as supported by legitimizing myths and ideologies (see above). This second factor represents a more subtle form of dominance and correlates more strongly with political conservatism, subtle prejudices, and opposition to affirmative action. These two SDO subfactors correlate in the .70 range and can be utilized separately or as a single composite, depending on the goals of the researcher.

Conclusion

SDO is a well-established individual difference variable tapping a generalized acceptance of inequality and preference for intergroup hierarchy. Framed within a broader social dominance theory that encompasses many levels of influence, including societal and institutional, SDO represents a person-level variable that measures interindividual variation in desires for group-based dominance. As such, the SDO construct is considered a “tool” that can both measure stable individual differences and detect features of the power dynamic within an intergroup context. SDO is theorized to have multiple causes, including male sex, higher group status, socialization, and temperament/personality, with recent evidence also supporting a reasonably strong heritable component. Recent evidence also suggests that intergroup contact can mitigate the negative effects of SDO on intergroup attitudes, and contact can also lower SDO levels. In the absence of context-specific manipulations, SDO tends to naturally correlate with a host of prejudices, and also with RWA and a variety of prejudice-relevant constructs such as intergroup disgust sensitivity, intergroup threat, and intergroup anxiety. The expression of SDO on policy support (e.g., hiring, affirmative action) is largely mediated by legitimizing myths that rationalize the expression of dominance, often taking the form of ideologies that blame the out-group for their status or

outcomes. Such expressions serve to exacerbate hierarchies and perpetuate intergroup inequality. The SDO construct has continued with conceptual development, now regarded as two subfactors relevant to dominance and (anti)egalitarianism, both tapping into a generalized belief in group-based dominance.

Cross-References

- ▶ [Conservatism](#)
- ▶ [Discrimination](#)
- ▶ [Personality and Political Affiliation](#)
- ▶ [Prejudice](#)
- ▶ [Right-Wing Authoritarianism Scale, The](#)
- ▶ [Social Hierarchies](#)
- ▶ [Status](#)
- ▶ [Stereotypes](#)

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Social Dominance Orientation and Social Dominance Theory

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Synonyms

SDO; Social dominance; Group-based dominance; Intergroup dominance; Opposition to equality; Intergroup antiegalitarianism

Definition

Social dominance orientation (SDO) is a social–attitudinal dimension representing the extent to which an individual endorses the idea of hierarchy between groups in society or the dominance of certain groups over others (SDO is sometimes informally referred to as *social dominance* but should not be confused with social dominance as defined in evolutionary and developmental psychology and behavioural studies as behavioural dominance in social or communal groups (e.g., dominating territory, social interaction/attention, or access to resources or mating opportunities)). SDO is one of the most widely researched constructs in social and political psychology, with individual differences in SDO found to be related to various personality traits and predictive of a wide range of social attitudes and behaviors across times and cultures. For example, higher SDO is consistently linked to more conservative beliefs and attitudes, higher prejudice against stigmatized or disadvantaged social groups, and more socially undesirable personality characteristics (e.g., low

agreeableness, high psychopathy). Research increasingly indicates that SDO consists of two correlated but distinct dimensions: *intergroup dominance* (SDO-D) and *intergroup antiegalitarianism* (i.e., opposition to equality; SDO-E).

Social Dominance Orientation

People differ in the extent to which they accept and endorse inequality and conflict between societal groups. A relatively recent but vast research literature has established that the crux of this individual difference is represented by *social dominance orientation* (SDO). SDO represents an individual's tendency to endorse group-based dominance and inequality (Ho et al. 2015; Pratto et al. 1994). People high in SDO believe that it is functional and natural for certain groups in society to have more power and resources than other groups. They hold attitudes and ideologies that espouse the goodness of high-status groups and justify their dominance while deploring low-status groups and acting in ways to keep them in their place. People high in SDO support policies—and even make life choices—that serve to reinforce group-based hierarchy.

Since social dominance theory was articulated over two decades ago (Pratto et al. 1994; Sidanius and Pratto 1993), SDO has gone on to become one of the most studied variables in social and political psychology. It predicts a wide range of intergroup attitudes and behaviors, personality traits, and other psychological characteristics (Ho et al. 2012, 2015), including several individual-difference variables that have entries in this volume (see Cross-References). Before reviewing these relationships, the next section briefly describes social dominance theory in order to explain the theoretical background and conception of SDO.

Social Dominance Theory

Social dominance theory (e.g., Sidanius and Pratto 1993, 1999, 2012) is a multilevel theory

of intergroup relations aimed at explaining the ubiquity of inequality and discrimination between social groups. The theory proposes that group-based hierarchy is dynamically self-sustaining, even in the face of varied and dramatic social change. This hierarchy occurs in three basic forms: the *age system* whereby the middle aged are privileged over children and young adults, the *gender or patriarchal system* whereby men are privileged over women, and the *arbitrary set system* whereby socially constructed categories (e.g., race, social class) are hierarchically ordered. Each of these systems is theorized as both product and producer of a range of processes acting at system (i.e., societal), intergroup, and person levels (Sidanius and Pratto 2012).

Consensually endorsed ideologies, termed *hierarchy-enhancing legitimizing myths*, operate as the key process that sustains and governs the systems of group-based hierarchy. They are, arguably, the defining concept of social dominance theory and SDO. Hierarchy-enhancing legitimizing myths establish and maintain a consensual status quo regarding how positively valued things (e.g., economic resources, housing) and negatively valued things (e.g., prison terms, disease) should be differentially allocated to social groups (Pratto et al. 1994). Examples include meritocracy, social Darwinism, karma, and the Protestant work ethic. At the system level, these myths (and the social institutions that perpetuate them) minimize intergroup conflict, as they foster agreement between groups regarding their standing in the hierarchy (Sidanius and Pratto 2012). At the intergroup level, groups behave and treat each other in accordance with the legitimizing myths and the social contexts and identities these myths foster (Sidanius and Pratto 2012). For example, low-status groups experience continual stereotyping and discrimination. At the person level, individuals adopt social beliefs and group orientations that are consistent with hierarchy-enhancing legitimizing myths and lead them to participate in instances of group-hierarchy-maintaining discrimination (Sidanius and Pratto 2012). Such group orientations include – most importantly – SDO.

Because SDO represents a general desire to maintain group inequality, it determines individuals' likelihood and frequency of committing acts of group-based discrimination. Taking into account the overall process model proposed by social dominance theory, SDO occupies an important role. Individual SDO – a psychological attribute – is theorized to interact with societal and institutional forces to produce social inequality (Ho et al. 2015). SDO can thus be regarded, theoretically, as an index of an individual's propensity to contribute to and act in accordance with systems of group-based hierarchy in society.

Relationships with Other Variables

SDO is found to be correlated with a wide variety of variables, including demographic characteristics, personality and individual difference dimensions, social attitudes and policy positions, and life choices.

SDO Differences Between Demographic Groups

Research has found gender, ethnic, and cross-national differences in SDO. Men are consistently found to have higher SDO than women (e.g., Ho et al. 2015; Pratto et al. 1994, 2000). SDO also shows ethnic/racial differences (e.g., Ho et al. 2015; Sidanius and Pratto 1999), with higher SDO among groups of high status (e.g., White Americans) compared to those of low status (e.g., Black Americans). Cross-nationally, SDO is found to be significantly higher in some countries (e.g., Japan, Hungary, Russia) and lower in others (e.g., Switzerland, France, Germany), with nations' aggregate levels of SDO negatively predicted by their levels of democracy, individualism, egalitarianism, and wealth (Fischer et al. 2012).

Relationships with Personality and Individual-Difference Dimensions

SDO has also been found to share negative relationships with several socially desirable personality traits, and positive relationships with several

socially undesirable traits. In particular, SDO is negatively correlated with agreeableness (e.g., Hodson et al. 2009), as well as honesty–humility, emotionality, and openness to experience (e.g., Sibley et al. 2010). SDO is also negatively correlated with empathic concern (e.g., Sidanius et al. 2013) and endorsement of the harm and fairness moral foundations (e.g., Graham et al. 2011). Regarding undesirable traits, SDO positively correlates with the “dark triad” traits: Machiavellianism, narcissism, and psychopathy (e.g., Hodson et al. 2009); as well as the closed-mindedness dimension of need for closure (e.g., Van Hiel et al. 2004). SDO has also consistently been found to be positively correlated with tough-mindedness and competitive-world beliefs, as accounted for by the dual process model (Duckitt 2001, 2006).

The dual-process model. The dual-process cognitive-motivational model of prejudice (Duckitt 2001, 2006) combines and differentiates SDO with another key attitudinal orientation: right-wing authoritarianism (RWA; e.g., Altemeyer 1996). RWA represents endorsement of authority and convention and consistently shows modest positive correlations with SDO (e.g., Duckitt 2001, 2006; Hodson et al. 2009; Sibley et al. 2010; Van Hiel et al. 2004). According to the model, RWA is motivated by the goal of societal order and security, stemming from a view of the world as a dangerous place (*dangerous-world beliefs*). It is thus rooted in the personality dimension of social conformity and predictive of prejudice towards threatening outgroups. SDO, on the other hand, is motivated by the goal of group-based dominance and power, stemming from a view of the world as a highly competitive place in which the strong inevitably dominate the weak (*competitive-jungle beliefs*). It is thus rooted in the personality dimension of tough-mindedness and predictive of prejudice towards low-status outgroups. Many studies have found empirical support for the dual-process model (e.g., Duckitt 2001, 2006; Hodson et al. 2009; Sibley et al. 2010; Van Hiel et al. 2004) and for a deep distinction between RWA and SDO in terms of personality, attitudinal, and ideological correlates.

Relationships with Intergroup Attitudes and Prejudice

Consistent with the dual-process model, SDO consistently predicts prejudice against a wide variety of stigmatized or disadvantaged groups, including women, the poor, ethnic/racial minorities, LGBTQ people, immigrants, and refugees (e.g., Altemeyer 1996; Ho et al. 2015; Pratto et al. 1994; Sidanius and Pratto 1999). Although these findings are correlational, research overall points to SDO having a causal influence on intergroup attitudes. This is strongly supported by findings showing that in addition to socialized attitudes towards specific social groups, SDO also predicts outgroup-directed affect and prejudice in novel situations. Examples include experiments involving minimal groups, novel social categories, and new social policies (see Ho et al. 2015). The causal role of SDO is further supported by findings showing SDO to have a longitudinal (cross-lagged) effect on attitudes and behavior towards outgroups over time (e.g., Kteily et al. 2011; Sidanius et al. 2013).

Relationships with Social Ideologies and Policy Positions

Beyond attitudes and behavior towards specific outgroups, SDO predicts endorsement of a range of group-relevant social ideologies (Ho et al. 2015). It generally does so in ways that are consistent with the individual-level group-hierarchy-supporting conception of SDO proposed by social dominance theory (e.g., Sidanius and Pratto 1993, 1999, 2012) and the group dominance- and competition-based motivational process proposed by the dual process model (Duckitt 2001, 2006). Across cultures, SDO is positively related to political conservatism, nationalism, militarism, and sexism, and those high in SDO are also more likely to endorse hierarchy-enhancing legitimizing beliefs such as karma, noblesse oblige, rape myths, and just-world beliefs (e.g., Ho et al. 2015; Pratto et al. 1994; Sidanius and Pratto 1999).

SDO similarly predicts support for a range of group-relevant, hierarchy-enhancing social policies (Ho et al. 2015). For example, SDO is positively related to support for torture, wars of aggression, and punitive judicial policies (such

as capital punishment), as well as opposition to social welfare, affirmative action, and humanitarianism (see Ho et al. 2015).

In addition to predicting group-relevant attitudes, ideologies, and policy endorsement, there is some evidence that SDO can even predict individuals' life choices (Ho et al. 2015). Higher SDO has been found to predict choice of and performance in hierarchy-enhancing (cf. hierarchy-attenuating) college courses and job roles, such as those in law or business (see Haley and Sidanius 2005).

Criticism of the Predictive Value and Role of SDO

Although SDO has been widely studied and found to predict a range of attitudes and behaviors, some disagreement remains as to its conceptualization and causal nature. For example, some researchers have contended that rather than a personality-rooted individual difference variable, SDO is better conceptualized as an attitudinal outcome of social context and group dynamics (e.g., Jetten and Iyer 2010; Turner and Reynolds 2003). Criticism has also been leveled at social dominance theory itself, arguing that empirical evidence refutes its assumptions and proposed processes (e.g., Turner and Reynolds 2003). Relatedly, disagreement remains as to the meaning and implications of SDO among members of low-status groups (see Turner and Reynolds 2003). These controversies are, however, beyond the scope of this entry. More pertinent are key methodological issues, which are addressed in the following section.

Measuring SDO

The most widely used measure of SDO to date (Ho et al. 2015) has been Pratto et al.'s (1994) 16-item SDO₆ scale (see Table 1). It is the sixth and most commonly used version of the measure developed by the authors. The 14-item SDO₅ scale, published in the same paper, has been used by some researchers (e.g., Sidanius et al. 2013; Van Hiel et al. 2004), but the SDO₆ is considered the incumbent standard version of

Social Dominance Orientation and Social Dominance Theory, Table 1 Items of the SDO₆ scale (Pratto et al. 1994)

Instruction						
“Which of the following objects or statements do you have a positive or negative feeling towards? Beside each object or statement, place a number from ‘1’ to ‘7’ which represents the degree of your positive or negative feeling”						
1	2	3	4	5	6	7
Very negative	Negative	Slightly negative	Neither negative nor positive	Slightly positive	Positive	Very positive
SDO-Dominance (SDO-D) items						
1. Some groups of people are simply inferior to other groups						
2. In getting what you want, it is sometimes necessary to use force against other groups						
3. It’s OK if some groups have more of a chance in life than others						
4. To get ahead in life, it is sometimes necessary to step on other groups						
5. If certain groups stayed in their place, we would have fewer problems						
6. It’s probably a good thing that certain groups are at the top and other groups are at the bottom						
7. Inferior groups should stay in their place						
8. Sometimes other groups must be kept in their place						
SDO-Egalitarianism (SDO-E) items ^a						
9. It would be good if groups could be equal						
10. Group equality should be our ideal						
11. All groups should be given an equal chance in life						
12. We should do what we can to equalize conditions for different groups						
13. Increased social equality						
14. We would have fewer problems if we treated people more equally						
15. We should strive to make incomes as equal as possible						
16. No one group should dominate in society						

^aItems 9–16 are reverse-coded

the scale (Ho et al. 2015) and regarded to be slightly higher in face validity (e.g., Pratto et al. 1994).

One Dimension or Two?

Both the SDO₅ and SDO₆ were designed to measure SDO as a single dimension, consistent with its original conceptualization (Pratto et al. 1994). However, they also recognize and measure two distinct subdimensions, now referred to as *support for intergroup dominance* or SDO-Dominance (SDO-D) and *intergroup anti-egalitarianism* or SDO-Egalitarianism (SDO-E; e.g., Ho et al. 2012, 2015). In the SDO₆, eight items measure SDO-D (e.g., “Inferior groups should stay in their place”) and the other eight items measure SDO-E (e.g., “Group equality should be our ideal”). All SDO-D items are positively scored, such that a more positive response indicates higher SDO. All SDO-E items, conversely, are reverse-coded, with a more positive

response indicating lower SDO. This confound between item wording and subdimension makes it unclear whether SDO-D and SDO-E represent psychologically distinct aspects of SDO or just different responses to positively versus negatively worded items (Ho et al. 2015).

This problem with the standard measure is one reason why most SDO research has treated SDO as a single dimension. However, especially in recent years, research has increasingly supported the idea of SDO-D and SDO-E being distinct subdimensions (e.g., Ho et al. 2012, 2015; Jost and Thompson 2000; Kugler et al. 2010).

When measured and analyzed as separate variables, SDO-D and SDO-E have been found to show some differences in their correlations to various personality, attitude, and ideology variables as mentioned in the previous section. Regarding personality and individual-difference variables, SDO-D has been found to have a stronger relationship to honesty–humility (negatively),

psychopathy (positively), and competitive-jungle beliefs (positively) than SDO-E (e.g., Ho et al. 2015). By contrast, SDO-E has been found to be more strongly (negatively) related to harm and fairness moral foundations than SDO-D (e.g., Ho et al. 2015).

When it comes to group-based attitudes and beliefs, SDO-D better predicts support for aggression against disadvantaged or low-status groups (e.g., war, discrimination against immigrants) and aggression-justifying beliefs such as “old-fashioned” racism (e.g., Ho et al. 2012, 2015). Such ideas advocate active – if not violent – maintenance of hierarchy in which advantaged groups dominate disadvantaged groups (Ho et al. 2015). SDO-E better predicts support for inequality-justifying beliefs (e.g., the Protestant Work Ethic), opposition to equality-conducive policies (e.g., affirmative action), and US political conservatism (e.g., Ho et al. 2012, 2015). Rather than dominance or aggression, SDO-E thus represents a preference for ideologies and policies that maintain group inequality, especially those that do so by subtle means (Ho et al. 2015). That is, such ideas do not typically involve violence or conflict and usually have an ostensible purpose such as efficiency or meritocratic fairness. SDO-E thus appears subtler than SDO-D; SDO-D is about dominating and oppressing groups directly, whereas SDO-E is about quietly limiting their access to power and resources (Ho et al. 2015). (For a review of many more differences between SDO-D and SDO-E in terms of relationships to social attitudes, see Ho et al. 2015.)

Relative to SDO as a whole, the subdimensions of SDO remain understudied (Ho et al. 2015). For example, much less is known about the personality dimensions that underlie SDO-D and SDO-E, even though those that underlie overall SDO appear well established (e.g., Duckitt 2001, 2006; Sibley et al. 2010).

Support for Group Inequality, or Support for Ingroup Dominance?

A longstanding controversy has existed over whether SDO represents support for intergroup hierarchy and inequality in general, or just

hierarchy/inequality benefitting one’s own group (e.g., Jost and Thompson 2000; Kteily et al. 2011; Pratto et al. 2006). The original definition reflected the latter ingroup bias: SDO was defined as “the extent to which one desires that one’s ingroup dominate and be superior to out-groups” (Pratto et al. 1994, p. 742). However, this has changed over time. Recent research mostly conceptualizes SDO as a general affinity for intergroup hierarchy in general, regardless of the ingroup’s position (e.g., Ho et al. 2015; Kteily et al. 2011; Pratto et al. 2006). Such evidence consists of, for example, group identification being negatively related to SDO among members of a disadvantaged group (Black Americans; Ho et al. 2015). This indicates that SDO represents a preference for the existing group hierarchy – something difficult to harbor if identifying strongly as a member of a group towards the bottom of the hierarchy. Other researchers, however, have found contradictory effects (e.g., Jost and Thompson 2000).

A large proportion of the ambiguity around overlap of ingroup bias and SDO is likely due to the inclusion of items in the SDO₅ and SDO₆ scales (Pratto et al. 1994) that measure a desire for ingroup dominance (e.g., “Sometimes other groups must be kept in their place”). This problem has been addressed, along with the aforementioned issue of wording direction and dimensionality, in a thoroughly designed and validated new version of the scale: the SDO₇ (Ho et al. 2015).

The New Measure of SDO: The SDO₇

Whereas the previous measures of SDO (Pratto et al. 1994) were designed to be unidimensional, the SDO₇ (Ho et al. 2015) is specifically designed to be bidimensional, with SDO-D items and SDO-E items balanced in terms of both number and wording direction. The 16 items of the full scale (see Table 2) consist of eight SDO-D items and eight SDO-E items, with each consisting of four positively coded and four negatively coded items. Therefore, unlike in the SDO₆, item wording is not confounded with subdimension. Also in contrast to the SDO₆, none of the items reflect ingroup bias; all are worded to measure a

Social Dominance Orientation and Social Dominance Theory, Table 2 Items of the SDO₇ scale (Ho et al. 2015)

Instruction						
“Show how much you favor or oppose each idea below by selecting a number from 1 to 7 on the scale below. You can work quickly; your first feeling is generally best.”						
1	2	3	4	5	6	7
Strongly oppose	Somewhat oppose	Slightly oppose	Neutral	Slightly favor	Somewhat favor	Strongly favor
Pro-trait SDO-Dominance (SDO-D) items						
1. Some groups of people must be kept in their place						
2. It’s probably a good thing that certain groups are at the top and other groups are at the bottom						
3. An ideal society requires some groups to be on top and others to be on the bottom						
4. Some groups of people are simply inferior to other groups						
Con-trait SDO-D items ^a						
5. Groups at the bottom are just as deserving as groups at the top						
6. No one group should dominate in society						
7. Groups at the bottom should not have to stay in their place						
8. Group dominance is a poor principle						
Pro-trait SDO-Egalitarianism (SDO-E) items						
9. We should not push for group equality						
10. We shouldn’t try to guarantee that every group has the same quality of life						
11. It is unjust to try to make groups equal						
12. Group equality should not be our primary goal						
Con-trait SDO-E items ^a						
13. We should work to give all groups an equal chance to succeed						
14. We should do what we can to equalize conditions for different groups						
15. No matter how much effort it takes, we ought to strive to ensure that all groups have the same chance in life						
16. Group equality should be our ideal						

Items 2, 14, and 16 were retained from the SDO₆ scale (Pratto et al. 1994).

Items 3–6 and 11–14 comprise the 8-item short-form SDO_{7(s)} scale.

^aCon-trait items are reverse-coded.

preference for group-based hierarchy or inequality in general. The authors also validated a short-form version of the measure, the SDO_{7(s)}, consisting of eight items (four SDO-D and four SDO-E, each consisting of two negative and two positive items; see Table 2).

Emerging Research Directions

In addition to the new measure of SDO, several other recent developments in SDO research appear likely to shape how SDO is measured and studied in the coming years. One such development is the identification of factors that have a longitudinal influence on SDO. For example, SDO has been found to be longitudinally reduced by engaging in community helping (Brown 2011)

and ethnic intergroup contact (Dhont et al. 2014). Although SDO has mostly been studied in terms of its relationships with basic personality factors and group-related social attitudes, ideologies, and behavior, these findings show that it is also subject to the influence of experiential and situational factors.

Another emerging direction is the study of SDO’s relationships with psychological factors outside of the intergroup prejudice and attitude domain. These include links to positive-approach motivation (Corr et al. 2013), preferences regarding male body image (Swami et al. 2013), and impression and judgments of leaders (Simmons and Umphress 2015) as well as experts (Zhu et al. 2016).

A further emerging research direction is the identification of the distinct personality bases and attitudinal correlates of the dominance and

egalitarianism subdimensions of SDO, including studies involving large-sample social surveys (e.g., Bergh et al. 2015). Given that it is designed to properly measure these subdimensions, the new SDO₇ measure (Ho et al. 2015) will likely enhance this research direction in the coming years.

Conclusion

Social dominance orientation (SDO) is evidently one of the most important and far-reaching individual difference variables in psychology. It is a social-attitudinal orientation representing endorsement of hierarchy and inequality among social groups and is rooted in basic personality traits (e.g., tough-mindedness, low agreeableness). It predicts a wide range of hierarchy-enhancing intergroup attitudes and ideologies, including prejudice towards low-status outgroups, plus a range of other social-psychological tendencies. SDO consists of two related but distinct subdimensions, representing preferences for group-based dominance (SDO-D) and inequality (SDO-E) respectively. These subdimensions are found to have somewhat different personality bases and attitudinal effects and are fully taken into account in the new standard measure, the SDO₇ (Ho et al. 2015). Research will thus continue to illuminate the psychological origins and effects of SDO, with a range of important implications regarding the social and political behavior of individuals and groups.

Cross-References

- [Conservatism](#)
- [Right-Wing Authoritarianism Scale, The](#)

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Social Emotional Learning (SEL) Programs

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Synonyms

Emotion regulation training; Social skills training; Social-emotional competence; Social-emotional primary prevention; Social-emotional universal intervention

Definition

Social emotional learning (SEL) refers to the development of self-regulation and interpersonal skills (Greenberg et al. 2003; Zins and Elias

2006). Typically delivered in schools to all children as part of general education, SEL programs are interventions and curricula targeting the development of emotion regulation and social problem solving skills.

Introduction

In 1994, the Collaborative for Academic, Social, and Emotional Learning (CASEL) was founded to promote research-based, quality social and emotional learning practices for children around the world (<http://www.casel.org/>). According to CASEL (2015), SEL is the acquisition and application of skills to recognize and manage emotions, show empathy, form positive relationships, solve problems, and make good decisions.

CASEL (2015) identified five core competency areas for comprehensive SEL instruction: (1) self-awareness, (2) self-management, (3) social awareness, (4) relationship skills, and (5) responsible decision-making. Each of these areas addresses specific skills that promote children's social, emotional, and academic growth. Self-awareness is being able to recognize one's emotions and values in addition to one's strengths and limitations. Self-management refers to the regulation of emotions and behaviors to achieve a goal. Social awareness includes demonstrating understanding and empathy for others. Relationship skills address building positive interpersonal connections and handling conflict appropriately. Responsible decision-making involves skills necessary to make good choices about one's behavior in personal and social situations (CASEL 2015).

One of CASEL's primary goals is to disseminate research-based information to guide SEL practice in schools. In service of this goal, their website offers two downloadable CASEL Guides: the preschool and elementary edition and the middle and high school edition. In these Guides, they offer a framework for identifying and evaluating the quality of various social and emotional programs. They then apply this framework, rating each of the specific SEL programs based on the research evidence. The CASEL Guides also

provide assistance in best-practice approaches to program selection and implementation of SEL in the schools.

Empirical Support for SEL

A growing body of evidence supports the effectiveness of school-based SEL programs aimed at promoting these competencies. In 2011, Durlak and colleagues conducted a meta-analysis of 213 studies evaluating school-based SEL programs. They found that SEL positively influenced children's development in the areas of SEL skill acquisition, positive social behavior, and attitudes about self and school, while also reducing conduct problems and emotional distress (Durlak et al. 2011). Further, the authors found that SEL programs were positively related to children's academic achievement.

Children provided with SEL curriculum are better able to manage their emotions and have lower levels of depression, stress, and social withdrawal (Durlak et al. 2011). The skills addressed by SEL programs allow students to deal with their emotions and handle social situations appropriately. Relative to controls, students who received universal, school-based SEL instruction had more friends, demonstrated more adaptive peer interactions, engaged in more problem-solving behaviors, and evinced more prosocial behavior (Durlak et al. 2011). Compared to their peers, students receiving SEL also demonstrated fewer conduct problems, including fewer risky and violent behaviors.

SEL programs are also effective at reducing the likelihood of bullying because they encourage skills, behaviors, and attitudes that are incompatible with bullying. They also alter the environmental dynamics in which bullying occurs. For example, when supportive relationships between teachers and students and among students encourage open communication and positive ways to resolve problems and conflicts, bullying is less likely to occur. Additionally, when school norms, values, and policies emphasize respect for others and the ability to

appreciate differences, students are less likely to bully each other. As noted on the CASEL website, when students are able to establish positive relationships, manage their emotions, exhibit concern for others, and make responsible decisions, they can handle challenging social situations constructively.

The specific skills targeted by SEL programs provide support for increased academic achievement (Dymnicki et al. 2013). For example, self-awareness influences students to try harder, to persist through challenges, and to be confident in themselves and their abilities. Self-management facilitates meeting deadlines, keeping up with assigned duties, and maintaining motivation to complete tasks. Social awareness includes the student's ability to identify the situations in which social support can serve as a resource for managing problems. Relationship skills foster positive interpersonal interactions and effective functioning within groups. Responsible decision-making includes conscientious planning to complete work and study, which leads to better academic performance.

Importantly, SEL has been linked to increased academic success. A meta-analysis of over 200 studies indicated that students receiving SEL programs demonstrated an 11-percentile-point gain in academic achievement relative to students who did not receive SEL programming (Durlak et al. 2011). This research also demonstrated connections between social-emotional functioning and later achievement: They found that children's prosocial behavior in third grade was a better predictor than academic achievement in third grade on later academic achievement in eighth grade.

These findings highlight some of the essential direct and indirect benefits of SEL instruction over time. Durlak and colleagues found that SEL led to similar social, emotional, and academic benefits for children at all educational levels (i.e., elementary, middle, and high school) and in diverse geographic locations (i.e., urban, suburban, and rural schools), although they note that research examining adolescents and youth in rural settings is limited.

Implementation of SEL

SEL instruction is considered a Tier I, or primary prevention program. It is usually delivered to all children as part of general education curricula. As such, implementers include general educators, social workers, school counselors, special educators, researchers, and other paraprofessionals, with general educators commonly providing SEL curricula within their own classrooms. Instruction typically incorporates direct instruction as well as interactive role-plays, games, activities, and songs.

In recent years, school personnel in the United States have experienced increased pressure to address students' social-emotional development through SEL instruction because of growing evidence that explicitly teaching children these skills leads to positive social, emotional, and academic outcomes. After the Academic, Social, and Emotional Learning Act (HR 2437) was passed in 2011, many of the 50 states established preschool through high school student learning standards that emphasized social and emotional competence (Dusenbury et al. 2015). This legislation was useful in promoting SEL in US schools given recent pressure placed on school personnel to demonstrate student learning through performance on academic achievement tests (Zins et al. 2004).

Conclusion

SEL programs have been linked empirically to increases in positive social and emotional behaviors (e.g., developing friendships, adaptive peer interactions, social problem solving, emotion management), decreases in negative social and emotional behaviors (e.g., conduct problems, aggression, depression, stress), and increases in academic achievement. Recent legislation in the USA has led to increased adoption of SEL standards and implementation of SEL curricula in the schools. Given this trend, it is likely that SEL

programs will continue to serve as building blocks for youth to develop the necessary skills for successful living.

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Social Exchange

- ▶ [Kin Relationships](#)
- ▶ [Reciprocal Altruism](#)
- ▶ [Social Interaction](#)

Social Exchange Theory

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Synonyms

[Interdependence](#); [Social interaction](#)

Definition and Core Assumptions

Social exchange theory views social interaction as based on the mutual flow of resources or behaviors of value over time. The key assumptions of exchange theory (Molm and Cook 1995) include the following: (a) behavior is motivated by the desire to increase gain and to avoid loss; (b) exchange relations develop in structures of mutual dependence (both parties have some reason to engage in exchange to obtain resources of value); (c) actors engage in recurrent, mutually contingent exchanges with specific partners over time (i.e., they are not engaged in simple one-shot transactions); and (d) valued outcomes obey the economic law of diminishing marginal utility (or the psychological principle of satiation). Based on these core assumptions, various predictions are made about the behavior of actors engaged in exchange and the effects of different factors on the outcomes of exchange.

Introduction

The theory of social exchange has its origins in sociology in the work of George C. Homans and Peter Blau. In “Social Behavior as Exchange” (1958), Homans provided the foundations of this approach, later expanded in *Social Behavior: Its Elementary Forms*, published in 1961 (1974). The focus of his work is elementary behavior, actions of individuals in direct interaction with one another that form the foundation of groups and organizations. He contrasted elementary behavior

with institutionalized forms of behavior, such as conforming to norms or to role prescriptions.

Blau's book, *Exchange and Power in Social Life* (Blau 1964), provides a more extensive treatment of the links between micro-level social behavior and macro-level groups, organizations, and institutions. For Blau, relationships between the parts or elements of the structure create emergent processes that evolve from the interaction of the parts but are not reducible to properties of the individual elements. Homans, in contrast, adopted a reductionist orientation arguing that many of the "laws" of social organization could be understood in terms of the behavior of the interacting parts, typically individuals. For this reason, according to Homans, psychological principles ultimately laid the foundation for the laws of elementary social behavior.

While Homans's efforts were aimed at understanding elementary behavior, Blau's aim was much more macro in focus. He intended to formulate a theory of social structure and institutions based on a sound micro-foundation. The origin of Blau's vision of social behavior was a more sociological version of microeconomics, which he labeled "social exchange theory," borrowing the term from Homans. Blau's work was one of the first major theoretical efforts to extend the logic of microeconomics to the analysis of social behavior. Homans instead based his analysis of social behavior on principles of behavioral analysis, influenced by his colleague, B.F. Skinner.

Roots of Exchange Theory

The works of several psychologists and anthropologists provided additional impetus to the development of the exchange paradigm. The dominant contribution from psychology is the work of John Thibaut and Harold Kelley (1959), *The Social Psychology of Groups*. This volume focuses on the forms of interdependence among individuals engaged in various types of social interaction. Thibaut and Kelley (1959) importantly distinguish behavior control from fate control in interdependent social relationships. Their work inspired subsequent experimental research

in psychology on cooperation, competition, negotiation, and coalition formation.

In addition, the early work of anthropologists like Levi-Strauss (1922, 1969), Malinowski (1922), and Mauss (1925) influenced exchange theory in different ways. Sociologists drew on their fieldwork to provide examples of the significance of social exchange, often contrasted directly with economic exchange. Malinowski (1922), in his analysis of the Kula ring among the Trobriand Islanders, argued that the exchange of arm bands for necklaces across the islands was an important source of social solidarity, the significance of which exceeded the economic value of the items exchanged. Blau (1964), and subsequently Richard Emerson (1972, 1981), developed conceptions of indirect exchange and generalized exchange based to some extent on Malinowski's extensive fieldwork. Mauss's (1925) complex analysis of the gift also provided input to the development of theory concerning generalized exchange and reciprocity (Molm 1997).

Power

The primary legacy of Emerson's work on social exchange is his conception of how power is determined by the dependence of one actor on another in an exchange relation and how dependence is structured by the nature of the connections among actors in networks of exchange opportunities that deny or provide access to alternatives. The key definition of power in Emerson's formulation is the power of actor A over actor B in the Ax:By exchange relation (where x and y represent resources of value) increases with decreases in the value of y to A. It also increases proportional to the degree of availability of y to A from alternative sources (other than B) which lowers A's dependence on B. These two factors (resource value and availability) determine the level of B's dependence on A and thus A's power over B. That is, the power of A over B is a direct function of B's dependence on A in the A:B exchange relation. The more dependent B is on A, the more power A has over B. Embedding this relationship in a network of exchange opportunities creates the

basis for a structural theory of power in exchange networks. Exchange relations are connected to the extent that exchange in one relation affects or is affected by the nature of the exchange in another relation. In addition, one form of exchange (i.e., negotiated or reciprocal) can be mixed with or embedded in networks in which exchanges of another type are dominant (Molm et al. 2012).

Empirical work has established several primary facts about exchange in networks of social relations. Power inequalities in networks of exchange are determined by access to valued resources in the network. The networks structure this access by providing connections or links to certain actors and restricting access to others. The structure of the network determines the accessibility of resources and thus the nature of the distribution of power in the network (e.g., Cook and Emerson 1978; Cook et al. 1983). Subsequent empirical work has extended this research, developing a number of new formalizations concerning the structure and size of the networks, the form of exchange, and the dynamic nature of the processes involved over time.

In exchange relations characterized by power inequalities, the use of power clearly varies not only by network structure and size, but it also varies depending on whether the actors control positive or negative outcomes. Extending the theory to deal with the exercise of coercive power within social exchange relations, Molm (1997) produced insights into the nature of power relations in situations in which the actors have not only reward power but also punishment power. According to Molm (1997, p. 268): “When punishment is administered contingently and consistently, coercion is a powerful means of getting what one wants.” However, coercive power is rarely used due to the risks involved.

Micro-social Order

Lawler and his collaborators (e.g., Lawler and Yoon 1993) examined the conditions under which social exchange relations develop out of opportunities for exchange and are linked to the emergence of positive emotions about the

exchange relation. These positive emotions and subsequent feelings of relational cohesion or solidarity, Lawler argues, develop based on positive evaluations of the outcomes of the exchanges between actors and the frequency of their exchange. This line of research returned to some of the earlier anthropological work that examines the links between exchange and solidarity in social relations. It also integrated into existing theoretical conceptions of exchange theory important considerations of the emotional bases of exchange and commitment (see Lawler and Thye 2002).

Lawler and his collaborators (e.g., Lawler et al. 2008) have also explained how various types of exchange (reciprocal, negotiated, generalized, and productive) result in different levels of “micro-social order,” reflecting the nature of the recurrent social interactions, emotional responses, perceptions of being a group, and affective sentiments directed at the group or network and subsequent attachment to the group. These are the elements of social order as it emerges at the micro-interactional level. It is strongest when activities are joint (as is the case with productive exchange) and when the tasks involved generate a shared sense of responsibility (strongest in productive exchange and weakest in generalized exchange). The significance of this work is that it connects exchange theories explicitly to the broader study of social commitments (Lawler 2009) and social order.

Conclusions

Social exchange theory is used to analyze social interactions over time in terms of the actual behaviors and resources of value to the actors involved given their interdependence. Typically these dyadic exchange relations are embedded in networks of other relationships that influence not only the nature of the exchanges involved but also the degree of power one actor has over another (or the extent to which one actor is more dependent). The ongoing exchanges (if positive) form the basis for cohesion or solidarity and the foundation of relational commitment and micro-social order.

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Social Exclusion

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Synonyms

Ostracism; Rejection

Definition

The experience of being left out by others; the breaking of social bonds or ties.

Introduction

Social exclusion is when someone experiences being left out by others or the breaking of social bonds or ties. (Social exclusion will be used throughout this encyclopedia entry interchangeably with ostracism and rejection as social exclusion is a broader term that represents all of these situations.) It is also thought of as social rejection or ostracism (being ignored and excluded). Humans have a fundamental need to belong or a desire to be socially connected to others (Baumeister and Leary 1995). This need drives much of our thoughts and behaviors. Our need to belong is also impacted by social exclusion, as the belonging need is one of four fundamental needs affected by social exclusion (Williams 2009). The other fundamental needs affected by social exclusion include self-esteem (the need to feel good about ourselves), control (the need to have a sense of agency), and meaningful existence (the need to feel as if we are worthwhile). Following social exclusion, participants report negative psychological consequences in the form of these depleted needs as well as increases in negative affect coinciding with decreases in positive affect (Williams 2009). Because of our fundamental need to belong, humans also developed a sensitive ostracism detection system to recognize when ostracism may occur (Williams 2009).

Methods for Studying Social Exclusion

A variety of methods exist to study social exclusion. One method involves participants learning that others do not want to work together with them on a task (Leary et al. 2006). A particularly strong method of studying exclusion is often referred to as the life-alone paradigm. This paradigm involves participants answering a multitude of personality questions. Following the completion of this, participants are told that based on their responses to the questions in the not too distant future they will have no social connections and will live the rest of their life alone (Twenge et al. 2001).

Another method of studying exclusion is through face-to-face exclusion experiences, one that was developed was a ball-toss game. Participants came to the lab and as they were seated in a waiting room, a confederate picked up a ball out of a box of children's toys (ostensibly for a developmental study). They began tossing the ball to another confederate and they also threw the ball to the participant. Sometimes, though, the two confederates would stop throwing the ball to the participant after a couple of throws, and they would begin ignoring them as well (Williams and Sommer 1997). After the success of this paradigm, the researchers developed a similar paradigm called Cyberball (Williams and Jarvis 2006). This paradigm is similar in that participants are playing a virtual ball-toss game with confederates (a pre-programmed computer game), but it is much more subtle in that participants never interact with the others. This suggests the potential strength of social exclusion, in that participants react negatively even to this minimal virtual paradigm.

Sensitive Ostracism Detection System

The potential strength of social exclusion is likely due to our sensitive ostracism detection system that evolved to protect our need to belong. Williams (2009) suggests that because we have this sensitive ostracism detection system, we should

detect ostracism quickly, over-detect ostracism, and experience consequences associated with physical pain.

Evidence suggests that people detect ostracism quickly and with only the slightest representation of ostracism. Cyberball itself is evidence that only the slightest representation of ostracism leads people to experience negative psychological consequences. Additionally, a study utilizing Cyberball and hand dials allowed participants to note how they were feeling at every moment during their Cyberball game (Wesselmann et al. 2012). This study showed that ostracized participants began to feel more negative only 20 s into the Cyberball game, displaying the speed at which they detected their exclusion.

According to Williams's (2009) theory, people should also over-detect ostracism. Studies have shown that participants feel ostracized and report negative psychological consequences even when they are excluded by a computer (Zadro et al. 2004) or a despised outgroup such as the KKK (Gonsalkorale and Williams 2007).

Lastly, if we are programmed to detect ostracism immediately, one way to guarantee that would be for ostracism to connect to physical pain. Research asking participants to indicate on a pain scale how much pain they are experiencing during ostracism suggests that those who were excluded reported more pain (Chen et al. 2008). Additionally, when participants played Cyberball while hooked up to an fMRI machine to monitor their brain, the images demonstrated that the same areas of the brain that are activated by physical pain were activated by the social pain of exclusion (Eisenberger et al. 2003).

Three Stages of Ostracism/Exclusion Experiences

The three pieces of evidence that demonstrate our quick reaction to exclusion as mentioned above are a part of the first stage of ostracism: the reflexive stage. This stage is the initial, immediate reaction following the episode of exclusion. During the reflexive stage, people experience exclusion

similarly in that everyone typically experiences negative psychological consequences immediately following ostracism regardless of the situation and regardless of personality traits and individual differences.

Following the reflexive stage, people enter the reflective stage (Williams 2009). In this stage, participants begin recovering from the exclusion experience and fortifying their depleted needs – strengthening them for future exclusion episodes. They may do this by trying to regain inclusion, such as by expressing more interest in making friends and working with others (e.g., Maner et al. 2007), or by trying to regain control, often through aggressive means (e.g., Warburton et al. 2006). In this stage, people also begin to make attributions and assess the meaning of the exclusion experience during the reflective stage. During the reflective stage, people recover differently from ostracism, even though their initial reactions in the reflexive stage are usually similar (Williams 2009). Importantly, in this stage, individual differences and personality traits play more of a role in determining recovery from and responses to exclusion.

The last stage is the resignation stage where people suffering from chronic ostracism experience long-term negative consequences. In this stage, the four fundamental needs turn to more severe issues such as alienation (belonging), depression (self-esteem), learned helplessness (control), and a sense of worthlessness (meaningful existence). This stage has not been explored much, but the life-alone paradigm (Twenge et al. 2001) is thought to be a way to examine this in the shorter-term.

Individual Differences Related to Social Exclusion

Individuals differ in a couple of key traits that are related to social exclusion – in our need to belong and our rejection sensitivity.

Need to Belong Although humans have a fundamental need to belong that drives much of our

behavior, people also differ in the degree to which they experience this need with some being higher in their need to belong than others (Leary et al. 2013). People higher in the need to belong may have chronically activated belonging needs that result in a stronger desire to be included and liked by others, as well as more negative reactions to social exclusion. One study showed that for those higher in the need to belong, they experience more negative affect and stress following social exclusion compared to those lower in the need to belong (Beekman et al. 2016). Those higher in the need to belong are also more aware of various social cues, specifically in identifying vocal tone and facial expression (Pickett et al. 2004). Similar to experiencing more negative consequences following exclusion, those with higher belonging needs may also be more sensitive to potential belonging threats. Evidence from two studies showed that those higher in need to belong were more attuned to and affected by negative social cues, even experiencing lower self-esteem following an imagined negative scenario (Tyler et al. 2016).

Rejection Sensitivity Rejection sensitivity is an individual difference in how much people expect, are anxious about, and overreact to rejection. Those higher in rejection sensitivity expect rejection more frequently, are more anxious about potential rejection, and feel more negatively in response to rejection than those lower in rejection sensitivity (Downey and Feldman 1996). For those higher in rejection sensitivity, ambiguous behavior from others is more often interpreted as intentional rejection behavior compared to those lower in rejection sensitivity (Downey and Feldman 1996).

Because the area of romantic relationships is filled with potential instances for rejection, rejection sensitivity has often been examined in this context. Relationships may be more difficult or less successful for people higher in rejection sensitivity. For example, those higher in rejection sensitivity are more likely to perceive a new romantic partner's insensitive behavior as intentional rejection compared to those lower in

rejection sensitivity (Downey and Feldman 1996). In romantic relationships when a partner is high in rejection sensitivity, both that person and their partner are more dissatisfied (Downey and Feldman 1996), and people who were higher in rejection sensitivity were more likely to have their relationship end than those who were lower in rejection sensitivity (Downey et al. 1998). Although, those higher in rejection sensitivity were also less likely to be in a relationship to begin with compared to those lower in rejection sensitivity (Downey and Feldman 1996). These findings suggest that those higher in rejection sensitivity may be less likely to enter relationships, as they fear rejection. There is also the potential for a self-fulfilling prophecy where those higher in rejection sensitivity are more likely to have unsuccessful relationships, which in turn leads them to maintain their high levels of rejection sensitivity or even become more sensitive to rejection. This may then lead them to choose not to enter new relationships or they will have another unsuccessful relationship, thus perpetuating a vicious, negative cycle.

Effects of Individual Differences on Social Exclusion

Individual differences can impact immediate reactions to, recovery from, and responses to exclusion.

Immediate Reflexive Reaction Although most of the evidence suggests that the initial reflexive reaction to social exclusion is similar for most people and not many personality or individual differences moderate these reactions, there is some evidence that personality traits could change immediate reactions to social exclusion. Neuroticism seems to specifically affect our control needs following ostracism. Compared to those who were lower in neuroticism, those who were higher in neuroticism perceived themselves as having less control during a Cyberball game when the exclusion was ambiguous (Boyes and French 2009).

Self-esteem may also play a role in immediate reactions to exclusion. Following a rejection experience, those lower in self-esteem felt more rejected than those higher in self-esteem (Nezlek et al. 1997). Another study also found that when recalling an experience of social rejection, people higher in narcissism, or people who have extremely inflated self-esteem, reported experiencing more anger when they were rejected than those lower in narcissism (Twenge and Campbell 2003).

Recovery from Social Exclusion It is more common for individual differences to impact people in the reflective stage of ostracism, when they are recovering from the exclusion experience. Multiple studies have found that social anxiety, or phobia of social situations, moderates recovery from social exclusion. Although there were no differences in the immediate reaction to social exclusion on need satisfaction of those four fundamental needs (belonging, self-esteem, control, and meaningful existence), after completing various distraction tasks for 45 min following the social exclusion experience, those higher in social anxiety recovered differently than those at normal levels of social anxiety (Zadro et al. 2006). Participants at normal levels of social anxiety recovered fully to levels of those who were included, rather than excluded, but those who had higher levels of social anxiety still had not fully recovered from the exclusion experience 45 min later. The same effects were found in looking at self-regulation rather than need satisfaction (Oaten et al. 2008). Immediately following social exclusion, all participants were less able to self-regulate than those who had been included. However, 45 min later, those with normal levels of social anxiety were able to self-regulate but those who were higher in social anxiety still experienced self-regulation issues (Oaten et al. 2008). Similar to social anxiety, social avoidance (or wanting to stay out of situations with people) also affects recovery from exclusion such that those higher in social avoidance recovered slower from the exclusion experience (Wesselmann et al. 2012).

Self-construal, or how one views the self, also may affect recovery from social exclusion. Similar to the differences based on individualistic or collectivistic cultures, self-construal is an individual difference in how people view the self in relation to others. Those with an independent self-construal view the self as separate from others, whereas those with an interdependent self-construal view the self as connected to others. Although there were no differences in initial reflexive reactions to being excluded, those with a more interdependent construal recovered more quickly from being excluded than did those with a more independent self-construal (Ren et al. 2013).

Responses to Social Exclusion Individual differences may also moderate people's responses to social exclusion. As mentioned above, typical responses to ostracism can include attempts to regain inclusion (e.g., displaying more prosocial behavior, wanting to make new friends) or attempts to regain control (e.g., aggressive responses).

In addition to playing a role in recovery from social exclusion, social anxiety also changes responses to social exclusion, particularly when it comes to regaining inclusion. Following social exclusion, participants who were higher in social anxiety exhibited less prosocial behavior toward potential new friends than those lower in social anxiety (Maner et al. 2007). Gender may also affect the desire to regain inclusion following social exclusion. Typically, when working in a group, people put in less individual effort than when they work alone, or in other words, they socially loaf. However, following an exclusion experience, females (but not males) worked harder on a collective task for the group than they worked on an individual task alone, showing the opposite of what is typically found (Williams and Sommer 1997). This suggests that females were willing to work harder even when their individual efforts would not be counted in order to regain inclusionary status following an exclusion experience.

In looking at regaining control, multiple individual differences seem to play a role in whether people may respond aggressively following

social exclusion. Unsurprisingly, rejection sensitivity impacts aggressive tendencies following exclusion. Following rejection, those who were higher in rejection sensitivity were more aggressive toward their rejector than those lower in rejection sensitivity (Ayduk et al. 2008). Narcissism also affects aggressive responses following social exclusion such that those higher in narcissism were more likely to aggress against someone who rejected them, as well as against a third party who did not personally reject them, than those lower in narcissism (Twenge and Campbell 2003).

An individual difference that may be less obviously connected to social exclusion also plays a role in aggressive responses to social exclusion – implicit relationship theories (destiny vs. growth beliefs). People who hold stronger destiny beliefs tend to view negative outcomes as stable and unchangeable, whereas those who hold stronger growth beliefs tend to view negative outcomes as temporary and changeable. Thus, following exclusion, those who hold stronger destiny beliefs may experience more reduced control needs compared to those who hold stronger growth beliefs, and these control deficits can lead to more aggressive responses (Warburton et al. 2006). That is exactly what was found across multiple studies – those who held stronger destiny beliefs responded more aggressively following exclusion compared to those who held stronger growth beliefs (Chen et al. 2012).

Individual Differences in Who Is Excluded

More recent research has begun to look at the excluder (or ostracizer) and who they are likely to exclude. People may use social exclusion in an attempt to make people behave in more positive ways and to eliminate behaviors perceived as negative. For example, group members who exhibited burdensome behavior (throwing the ball very slowly in Cyberball) were more likely to be ostracized (Wesselmann et al. 2013). Similarly, people are more willing to exclude those who are more disagreeable, or less friendly and cooperative, than

those who are more agreeable (Hales et al. 2016). Ironically, being excluded also leads people to report being more disagreeable than when people are included (Hales et al. 2016), suggesting a potentially vicious cycle where those who are excluded become disagreeable, which in turn makes them more likely to be excluded.

Effects on Individual Differences Following Social Exclusion

Although typically the outcomes of exclusion studies are behavioral or assessing need satisfaction and affect, research showed that exclusion could impact an individual difference or personality trait (Hales et al. 2016). Another study also demonstrates this type of effect suggesting that exclusion can affect a person's religiousness. People who were socially excluded reported higher levels of religiousness compared to those not socially excluded (Aydin et al. 2010). Findings from both of these studies lead to interesting questions about how long these effects on personality and individual differences may last.

Conclusion

Individual differences play many different roles in social exclusion. There are individual differences related to social exclusion such as the need to belong and rejection sensitivity, which make people more attuned to exclusion and rejection. Various individual differences and personality traits also impact people who have been excluded. Although the immediate reactions to exclusion are so strong they are rarely affected by individual differences, sometimes they are (e.g., neuroticism and self-esteem). More commonly, individual differences affect people's recovery from exclusion (e.g., social anxiety and self-construal) and their responses to social exclusion (e.g., social anxiety, rejection sensitivity, and narcissism). Additionally, individual differences can affect who is excluded (e.g., more disagreeable people) and even alter individual differences following social exclusion (e.g., agreeableness and religiousness).

Cross-References

- ▶ [Antisocial Behavior](#)
- ▶ [Bullying](#)
- ▶ [Importance of Agreeableness, The](#)
- ▶ [Ostracism](#)
- ▶ [Social Interaction](#)
- ▶ [Trait-Situation Interaction](#)

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Social Factors

► Social Mammals

Social Feeling

► Social Interest

Social Goals

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Synonyms

Drives; Intentions; Motives; Needs

Definition

Broadly speaking, goals are desired end states that direct cognition and behavior in a goal-congruent manner. Goals can vary from the abstract to the concrete and may be approach-oriented (i.e., focused and achieving positive outcomes) or avoidance-oriented (i.e., focused on avoiding negative outcomes). Social goals are a subset of the goals human pursue that are *interpersonal* in nature, for example, making friends, finding a romantic partner, and making a favorable first impression.

Introduction

Humans pursue a wide range of goals. These sought after end states vary from the quotidian (e.g., waking up on time to catch the train) to the lofty (e.g., climbing Mount Hood) and may be specific (e.g., avoiding the flu) or abstract (e.g., attaining happiness). Goal pursuit can sometimes be focused on achieved desired end states, satisfying what are known as *approach-oriented* goals. However, at other times goals are oriented toward avoiding unwanted outcomes, known as *avoidance-oriented* goals. Within the context of personality psychology, research has examined individual differences in goal pursuit strategies and priorities (e.g., Read and Miller 1989), with differences in seeking rewards or instead avoiding punishment forming a core dimension in numerous models of goal pursuit (Carver and

White 1994). For example, extraversion is closely linked with seeking rewards (Lucas et al. 2000), and reinforcement sensitivity theory argues that individual differences in responsivity to reward and punishment predict goal pursuit and behaviors in numerous domains (Gray 1991).

Historically, the psychological study of goals has attempted to organize goals by domain and importance. Perhaps the most famous example is provided by Maslow's (1943) well-known hierarchy of needs, which posited that basic physiological needs (e.g., eating, drinking) had to be satisfied before progressively more complex (e.g., esteem-needs) and finally abstract goals (e.g., self-actualization) could be pursued. Similar taxonomic efforts were offered by other theorists that attempted to catalogue human goals (e.g., Murray 1938). More contemporary models have similarly proposed hierarchies in goal pursuit as well. In some cases researchers have revised older hierarchical models with evolutionary and biological considerations in mind, for example, replacing Maslow's pinnacle goal of self-actualization with the biologically grounded imperative to reproduce (Kenrick et al. 2010). Other researchers have taken a more exploratory approach and allowed participants to sort various goals according to their similarity (i.e., creating clusters of related goals) and also rank them according to importance (Chulef et al. 2001).

Notably, across these various efforts to understand the organization of human goals, social concerns are both ubiquitous and frequently deemed most important. For example, Chulef et al. (2001) found that *nine* of the ten most important goals in their diverse and large sample of participants were social (e.g., mating, friendship, social approval). In short, numerous comprehensive frameworks of human goals find that people emphasize social outcomes and interpersonal interactions; from seeking friendship and affiliation, striving for status and achievement, finding and maintaining mates, the pursuit of interpersonal goals is both universal and highly important.

Social Goals

A subset of the innumerable goals humans pursue can be deemed *social* goals, that is, those that are inherently interpersonal in nature (Chulef et al. 2001). In other words, while social goals may vary in specificity and approach or avoidance orientation, they critically involve social relations and interactions with other people. Accordingly, social goals affect primarily social-cognitive and social-behavioral processes. As with ostensibly nonsocial goals, there is considerable variability across individuals in how interpersonal end states are pursued. Below, several specific examples of social goals are summarized. Each reflects goal pursuit in a highly valued and ubiquitous domain.

Belonging and Affiliation Goals

Perhaps the most fundamental and powerful social goal is a desire for *belonging*. A vast literature demonstrates that humans (and other social animals) have a profound need to affiliate with others and maintain rewarding and reliable interpersonal relationships (Baumeister and Leary 1995). The need to belong is grounded in human evolution and reflects that fact that people receive numerous benefits from social affiliation (e.g., protection, material and emotion support, resource sharing; e.g., Correll and Park 2005). Given the importance of belongingness, it is perhaps not surprising that people even go so far as to define themselves in terms of their group memberships (e.g., “I am a professor”), indicating that feeling a sense of social connection and group affiliation is so valuable that people define themselves partly in terms of their group memberships.

While this is a general truism, there are individual differences related to how acutely people experience the need to belong, how people pursue social interactions, and how they respond to threats to belonging. For example, there are differences across people in trait *Need to Belong* (i.e., how powerfully a person experiences the need to affiliate with others at baseline). This trait measure is positively correlated with extraversion and agreeableness (Leary et al. 2013), suggesting

that dispositional belonging goals are related to personality traits associated with seeking out social interactions, gregariousness, amiability, and cooperativeness, all of which facilitate liking and interpersonal harmony. Trait variables like social anxiety are also related to belonging goals. However, social anxiety is avoidance-based and defined by concerns about rejection and fear of negative evaluation from others (e.g., Winton et al. 1995). As a result, relatively high levels of social anxiety (even at a subclinical level) reflect an instance where social contact is desired but frequently avoided due to anxiety.

Additional evidence that belonging is a fundamental social goal comes from research on social rejection and related experiences (e.g., ostracism). When belonging needs are threatened, responses are swift, powerful, and phenomenologically negative. For example, in vivo experiences of social rejection not only lead to drops in *state* belonging but also temporary decreases in state self-esteem (Leary et al. 1995). Moreover, losing social connections even causes feelings akin to physical pain (e.g., Eisenberg et al. 2009). These reactions, while aversive, play an important part in directing adaptive responses that help people reestablish social connections. For instance, following experiences of social rejection, people become more sensitive to others’ emotional displays (Pickett and Gardner 2005), particularly expressions of genuine happiness (e.g., Bernstein et al. 2008), and these cognitive outcomes facilitate social reconnection. Thus, while immediate reactions to thwarted belonging goals are aversive and painful, humans are motivated to reestablish social connections to alleviate these negative states and restore a sense of belonging.

Related to generalized belonging goals is a more specific concern with romantic relationships (e.g., mate seeking and mate retention). Here too, many individual differences exist that shape how romantic goals are pursued, ranging from sex differences in desired partner qualities (e.g., Buss 1989) to individual differences in the preference for short- vs. long-term partnerships (Schmitt 2005). Interestingly, the pursuit of close romantic relationships may be subordinate to non-romantic relationships, such that people are most

interested in seeking out a dating partner when they belong to a broader social group (perhaps because the social group provides a buffer against romantic rejection or helps meet more fundamental goals like safety that are prioritized over mating; see Brown et al. 2009).

Self-Presentation Goals

Given the importance humans place on positive social interactions, it is logical that people are concerned with how they are evaluated and strive to present a positive self-image to others. Indeed, controlling the impressions and judgments of others is critical in countless interpersonal contexts, from the purely social (e.g., first dates, meeting a new roommate) to the decidedly professional (e.g., job interviews), and those somewhere in between (e.g., meeting new coworkers or classmates). Such self-presentation goals (also known as *impression management*) exert an influence in numerous domains and have long been a focus of interest among personality and social psychologist (Goffman 1959).

By presenting a positive image to others, several additional goals can be achieved. For instance, presenting an impression of oneself as intelligent and poised in professional settings affords the possibility of promotion, material gains (e.g., increased salary) along with increased social status. Alternatively, creating an image of the self as humorous and fun at a party facilitates social bonding and affiliation. In these ways, self-presentation goals both serve a variety of distinct social functions and also more generally increased well-being (e.g., Leary and Kowalski 1990).

There are numerous tactics that can be used when self-presenting, ranging from ingratiation to verbal boasting and even intimidating others (e.g., athletes self-presenting as aggressive to competitors, see Jones and Pittman 1982). Interestingly, while self-presentation is a goal-directed effort to manage impressions and social evaluations in self-beneficial ways, it is not inherently deceptive (though it can be, e.g., Feldman et al. 2002). In fact, moderate self-presentation strategies that

strike a balance between transparent self-promotion (e.g., obsequiously praising a boss, brashly boasting of successes) and undue self-depreciation or supplication lead to the most favorable impressions (Robinson et al. 1995). Moreover, while the desire to present oneself in a favorable light can lead to dishonest self-presentation, this tendency is kept in check by accountability concerns (Leary and Kowalski 1990). In other words, the temptation to present an exaggerated and idealized image of the self is tempered by the knowledge that being caught lying about one's traits or abilities comes with social and professional costs. Consequently, situations where dishonest self-presentation is likely to be revealed discourage self-enhancing distortions.

Contemporary research has recently extended the study of self-presentation into online communications. Indeed, many social networking platforms have become online proxies for interactions that were traditionally conducted face-to-face, including webpages dedicated to dating and professional sites designed for career advancement. In general, research examining impression formation in these venues finds that self-presentation plays out much like it does in face-to-face contexts (Ellison et al. 2006). For example, social desirability concerns can be observed in a systematic tendency to slightly distort height and weight in online dating situations (Toma et al. 2008). However, online self-presentation becomes more truthful when future interactions are considered likely and desirable and a person is therefore likely to be held accountable for inaccurate self-presentation (Gibbs et al. 2006). However, other social networking services are open to a wider audience (e.g., Facebook, Twitter) and visible to multiple social groups, including friends, family, and coworkers. This presents a unique *multiple-audience* problem. The self-presentation strategies used with friends are likely different than those used with coworkers, yet both groups may be able to see information posted on Facebook and similar platforms. To date, research suggests this problem is solved by carefully selecting the information shared on social networks and actively monitoring what information others

share (e.g., ensuring your mom does not post embarrassing baby photos on Facebook, e.g., Rui and Stefanone 2013).

Self-Protection Goals

Just as human interactions provide numerous benefits and can satisfy a fundamental belongingness goal, other people can also pose challenges, including cheating, stealing, and direct aggression. As a consequence, along with a social goal to affiliate and belong to groups, humans have a goal to protect themselves from danger, including threats posed by other people (Neuberg et al. 2011).

One context that makes this goal especially salient is *intergroup* interactions. An extensive social psychological literature demonstrates that interactions between different social groups are often fraught with tension and the potential for conflict (e.g., Stephan and Stephan 2000). Consequently, experimental manipulations that prime interpersonal threat (e.g., watching a brief clip from a horror movie) exert considerable influence during interactions with outgroups. For instance, salient self-protection goals lead to the activation of threat-related stereotypes of racial outgroups (Schaller et al. 2003) and the project of anger and hostility onto neutral outgroup faces (Maner et al. 2005). Such responses are goal-congruent insofar as they lead to the avoidance of targets heuristically considered threatening, even if this belief is erroneous or over-generalized. Dispositional variability in self-protection concerns has been documented as well and predicts similar outcomes (e.g., fear and avoidance of outgroups, Schaller et al. 2003).

More recent research has focused on interpersonal consequences (rather than intergroup) associated with self-protection goals. In particular, this work has examined how concerns with self-protection lead to heightened detection of interpersonal cues associated with safety and threat. For example, experimentally activated self-protection goals lead to increased accuracy in detecting real from posted smiles (Young et al.

2015), and women with chronic safety concerns also show increased discrimination of genuine and posed smiles (Sacco et al. 2015). Such results demonstrate functional and goal-directed changes in cognition. When threatened humans often seek protection from other people (see above section on belongingness). However, seeking aid when threatened must be done judiciously in order to approach those willing to help while avoiding individuals who might exploit vulnerability. One way to do this would be to accurately pick up on social information that covaries with other people's emotions and intentions (e.g., emotional displays; see Parkinson 2005). Importantly, smiles do just this, as genuine smiles are spontaneous indicators of positive mood and benign intent while insincere smiles can be used to mask negative emotions and do not reveal intentions (e.g., Brown and Moore 2002).

Interestingly, these separate avenues of research demonstrate that self-protection goals can lead to either bias or accuracy depending on the social context. In intergroup contexts, increased stereotyping and inaccurate perceptions of hostility seem to dominate. Yet, in interpersonal situations without obvious intergroup boundaries, heightened sensitivity to social signals is a common outcome. Notably, in both cases these cognitive processes serve adaptive behavioral reactions, helping satisfy self-protection needs by avoiding targets associated with threat and approach those who may offer aid and assistance.

Conclusion

The study of goals and motives has a long history within personality and social psychology and particular attention has been devoted to social goals, including belonging, mating, and self-enhancement. These inherently interpersonal goals are highly important and relate to numerous cognitive and behavioral outcomes. The summary above reviews literature on a selection of social goals and underscores how cognitive and behavioral processes conspire to direct behavior in functional and goal-congruent ways.

Cross-References

- ▶ [Goals](#)
- ▶ [Need to Belong](#)
- ▶ [Safety Needs](#)
- ▶ [Self-Esteem and Belongingness](#)

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Social Hierarchies

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Synonyms

Power structure; Social ranking; Stratification

Definition

Systems of social organization in which individuals are arranged by group status and have differential access to social and material resources.

Introduction

Social hierarchies are broadly defined as systems of social organization in which some individuals enjoy a higher social status than others (Sidanius and Pratto 1999) – specifically, in which people are stratified by their group membership (Axte et al. 2014; Jost et al. 2004; Sidanius and Pratto 1999). In socially stratified societies, high-status groups are afforded greater access to material and social resources relative to low-status groups, leading to differential opportunities and outcomes. For example, those with low status face more verbal harassment and physical assault (Katz-Wise and Hyde 2012), are discriminated against in employment decisions (Parker et al. 2016), and face harsher treatment by the criminal justice system (Wu 2016).

Theoretical Perspectives on Social Hierarchies

There is considerable disagreement in the psychological literature as to how hierarchies form and how groups come to be high or low status (Jost et al. 2004). Some theories emphasize self-enhancement motives and ingroup favoritism. The most influential of these theories, social identity theory (SIT), posits that individuals derive a positive self-concept from group membership and thus favor their ingroups and derogate outgroups to enhance their self-esteem (Tajfel and Turner 2004). According to SIT, social hierarchies emerge when members of majority groups provide favoritism to ingroup members, leading to systemic stratification between majority and minority groups (Tajfel and Turner 2004). Indeed, members of high (relative to low)-status groups see their ingroup as more central to their sense of self and demonstrate preferential treatment toward other ingroup members (Caricati and Monacelli 2010). Thus, according to SIT, hierarchy is primarily a product of a general tendency toward ingroup bias. Some, however, have been critical of SIT because of the phenomenon of *outgroup favoritism* – favoring the groups to which one does not belong – among members of low-status

groups (Sidanius and Pratto 1999; Jost et al. 2004). If, according to SIT, individuals discriminate to enhance their group identity, then low-status groups should show a greater ingroup bias than high-status groups. This, however, is often not the case. People frequently favor high-status groups over low-status groups, regardless of their own group identity (Jost et al. 2004). In other words, critics of SIT claim that there is consensus as to which groups are favored and which are targets of discrimination, rather than a general bias favoring one's ingroup (Sidanius and Pratto 1999; Jost et al. 2004).

One theory that challenges SIT's assumption of universal ingroup bias is social dominance theory (SDT), which proposes that human social organizations are predisposed to develop group-based hierarchies and emphasizes the role of natural selection processes in this development (Sidanius and Pratto 1999). An example is the formation and maintenance of gender-based hierarchies, whereby men are seen as higher in status than women across cultures. According to the evolutionary theories on which SDT is largely based, pregnancy is much costlier for women than men. Women thus improve their reproductive success by being more selective in choosing partners and preferring men with greater access to resources. Men, on the other hand, are more likely to pass on their genes by being less discriminating in sexual partners and controlling more resources, which increases their attractiveness and fosters women's dependence upon them.

SDT posits that these same natural selection tendencies also lead to the development of more general *arbitrary-set hierarchies* – those based on socially constructed characteristics specific to situational and cultural contexts, such as race/ethnicity, religion, and political party (Sidanius and Pratto 1999). Once established, arbitrary-set hierarchies are maintained and stabilized by *hierarchy-enhancing myths*, beliefs, attitudes, and ideologies that provide justification for hierarchical social systems, such as meritocratic beliefs and stereotypes about group abilities. *Hierarchy-attenuating myths*, on the other hand, are those that destabilize hierarchical social systems, such as feminist and anarchist belief

systems. Consensus on the status of different groups and hierarchy-enhancing myths prevents conflict and maintains the hierarchy. According to SDT, it is the status of one's group and one's endorsement of hierarchy-enhancing myths that lead to ingroup bias, rather than the general self-enhancement motive proposed by SIT. For high-status groups, endorsement of hierarchy-enhancing myths is related to *greater* ingroup bias. For low-status groups, endorsement of hierarchy-enhancing myths is related to *less* ingroup bias. It is this pattern that prevents intergroup competition and preserves social hierarchy.

System justification theory (SJT) shares many features with SDT (Jost et al. 2004; Sidanius and Pratto 1999). Both theories acknowledge that ingroup favoritism is higher among high-status groups than low-status groups (with low-status groups often showing *outgroup* favoritism), both propose that social hierarchies are generally consensual, and both predict that certain sets of beliefs and attitudes (e.g., political conservatism, sexism, racism) serve to reinforce the existing social hierarchies. However, SJT differentiates between *ego justification* (the need to maintain a positive self-concept), *group justification* (also known as ingroup favoritism), and *system justification* (the need to see existing social and political systems as fair and good). Whereas SDT predicts that high-status groups are more invested in the existing social hierarchy than low-status groups (Levin 2004), SJT proposes that system justification motives are often more pronounced in low-status groups than in high-status groups (Jost et al. 2004). This unique prediction is drawn from now classic research on cognitive dissonance, showing that people seek to rationalize their distress when they hold conflicting thoughts or feelings (Aronson and Mills 1959). According to SJT, group justification motives conflict with system justification motives in members of low-status groups – one cannot simultaneously have a positive regard of one's ingroup *and* the social system if one's ingroup receives poor outcomes within that social system (Jost et al. 2004). This dissonance can be resolved by perceiving the existing social and political systems as unfair (retaining

a positive view of one's ingroup) or by seeing one's ingroup as deserving of low social status (retaining a positive view of the existing social system) – according to SJT, the latter is more common than the former. For example, low-status groups (e.g., low-income or African-Americans) are more likely to hold attitudes that justify group differences in income and endorse political policies that restrict individuals' ability to criticize existing power structures (Jost et al. 2003). SJT also diverges from SDT in the hypothesized cause of social hierarchies. In contrast to SDT, which emphasizes evolutionary processes, system justification theorists favor a social constructionist approach that sees historical and cultural forces as the primary bases for the development of social organizations (Jost et al. 2004).

Individual Differences in Preference for Hierarchy

Social Dominance Orientation

Not all individuals endorse hierarchy to the same degree. One of the most influential measures of individual differences in support for hierarchy has been social dominance orientation (Sidanius and Pratto 1999). Sidanius and Pratto (1999) initially conceived social dominance orientation (SDO) as a unidimensional attitudinal construct that measured preference for ingroup dominance but later clarified it as a measure of preference for *intergroup* dominance and hierarchy (Ho et al. 2015). Higher SDO is related to less support for political policies that destabilize hierarchy (i.e., welfare, affirmative action) and prejudice toward various outgroups. However, research in the last decade or so has demonstrated that, rather than representing one construct, SDO has two relatively independent subdimensions (Ho et al. 2015). The first dimension, dominance (SDO-D), reflects a preference for blatant aggression and oppression of low-status groups, regardless of one's own status. Those high in SDO-D express overt prejudice, endorse violence and aggression toward low-status groups, and encourage competition. The second dimension, anti-egalitarianism (SDO-E), refers to an opposition to equality.

Those high in SDO-E express more subtle prejudice, are more politically conservative, and support policies that distribute resources unequally between groups. These two dimensions reflect two different ways of preferring hierarchy: one process is direct and oppressive, and the other process is subtler and more complex.

Personality Traits

Though the idea of a “prejudiced personality” is not new, more recent theories propose personality traits that connote “tough-mindedness” are the precursors to preference for hierarchy (Leone et al. 2012). For example, agreeableness (a trait reflecting preference for smooth social interactions) and humility-honesty (a trait reflecting differences in sincerity, fairness, and modesty) are both inversely related to SDO (Ho et al. 2015; Leone et al. 2012). Research on the newer, two-dimensional conception of SDO described above shows that agreeableness and humility-honesty are both negatively related to SDO-D, but only agreeableness is negatively related to SDO-E (Ho et al. 2015). Furthermore, though the dark triad traits – Machiavellianism (manipulation and deception of others), narcissism (extreme egotism), and psychopathy (antisocial tendencies and callousness) – are positively related to both SDO dimensions, these relationships are stronger with SDO-D than SDO-E. Overall, then, personality traits that reflect less empathy or concern about others tend to be associated with preference for hierarchical social organization.

Social Identities and Status

Regardless of the theoretical perspective, one's position within a social hierarchy is also thought to be determined by his/her social identities. There is considerable agreement on the status of different social identities across groups (Sidanius and Pratto 1999; Snellman and Ekehammar 2005). This consensus extends to implicit attitudes as well – individuals show implicit evaluations of racial, religious, and age groups that correspond to their explicit beliefs about group status (Axte

et al. 2014). A brief discussion of different social identity categories is presented describing the unique features of each category.

Race

Because of the history of political policies in the USA, the research on racial hierarchy and prejudice has largely focused on relations between Black and White Americans (Zou and Cheryan 2017). However, the recent growth in diversity and projected demographic shifts within the USA has prompted an increase in research on Asian Americans, Latino/as, Arab Americans, and other racial minorities. Racial minorities still face discrimination at a systemic level. In the criminal justice system, Black Americans and Latinos are more likely to be prosecuted after arrest than are White Americans (Wu 2016). Racial minorities continue to face discrimination at the workplace as well. For instance, about 21% of Black Americans report that employers discriminated against them when hiring, giving promotions, or deciding salary (Parker et al. 2016). However, racism is not limited to explicit negative evaluations and overt discrimination and is often expressed in subtler forms (Axte et al. 2014; Jost et al. 2004).

Physical features stereotypically associated with race can also affect status-related outcomes independent of racial identity. For instance, skin tone is often conflated with race (e.g., King and Johnson 2016), but its unique effect on status can be seen *within* racial groups. For instance, Black Americans with darker skin tone receive harsher criminal sentences than Black Americans with lighter skin tone (King and Johnson 2016). The negative evaluation of those with darker skin tone generalizes across racial groups – Hispanic Americans with darker skin are evaluated as less intelligent than Hispanic Americans with lighter skin (Hannon 2014). Variations in other stereotypic racial features can also affect discrimination. For example, those with Afrocentric facial features are treated more punitively by the justice system – this is true even when comparing *White American* defendants on Afrocentric features (King and Johnson 2016). Thus, in addition to racial identity itself, variations in

physical features typically associated with race are important predictors of status-related outcomes.

Gender

While the expression and targets of racist attitudes depend on the cultural context, sexist attitudes and the subordination of women to men are ubiquitous worldwide (Glick et al. 2000). As noted earlier, some researchers argue that hierarchical gender relations are specifically a result of natural selection processes (Sidanius and Pratto 1999). However, other researchers maintain that the status and unequal distribution of resources between men and women are largely dependent on the cultural beliefs surrounding gender (Sibley et al. 2007). Indeed, the subordination of women to men may exist across cultures but still displays variability (e.g., Glick et al. 2000), and in some cultures, though rare, women have a higher status than men (Gottner-Abendroth 1999). Thus, although gender hierarchy is unique in its ubiquity, it is affected by cultural and situational factors in much the same way as other hierarchical relations.

Sexual Orientation

Attitudes toward lesbian, gay, and bisexual (LGB) men and women have become much more positive in the last 20 years, yet 55% of sexual minorities still report verbal harassment and 41% report discrimination (Katz-Wise and Hyde 2012). Socially conservative religious beliefs are generally related to negative attitudes toward LGB individuals (e.g., Whitley 2009). The effects of conservative religious, political, and social beliefs on anti-LGB prejudice may be driven, in part, by a disgust reaction toward LGB individuals (Olatunji 2008). Those with greater disgust sensitivity tend to hold conservative attitudes about sex and are more sensitive to norm violations, both of which predict sexual prejudice. Thus, like other social identities, relations between heterosexuals and sexual minorities are largely justified by hierarchy-enhancing attitudes (e.g., social conservatism) but may be unique in that they are associated with particular emotional responses (e.g., disgust).

Religion

Like other group hierarchies, there is largely a consensus on religious group status in the USA – Christianity tends to be evaluated the most positively, followed by Judaism, Buddhism, Hinduism, and Islam (Axte et al. 2014). Because it is largely belief-based, religious identity itself can serve to either enhance or attenuate hierarchy. Indeed, members of dominant religious groups who prefer hierarchy express beliefs and attitudes that subordinate non-dominant religious groups (e.g., Levin 2004). Socially conservative religious beliefs play a role in prejudice toward minorities outside of religious identity, such as LGB individuals (Whitley 2009). Though most research has emphasized religion's role in enhancing hierarchy, religion can also attenuate hierarchy in some instances. Certain forms of religiosity, such as intrinsic religious orientation (using religion as one's "master motive" for making decisions) and Christian orthodoxy (agreement with the core beliefs of Christianity), are negatively associated with racial prejudice (Whitley 2009). In particular, quest religious orientation, seeing religion as a search for answers and meaning, seems to be most closely associated with hierarchy-attenuating beliefs. Quest is negatively associated with anti-LGB prejudice, racial prejudice, and general outgroup prejudice and positively associated with egalitarian political policies and beliefs (Altemeyer and Hunsberger 1992; Whitley 2009). Thus, whether religiosity enhances or attenuates hierarchy depends on the particular kind of religiosity expressed by individuals.

Identities and Culture

Although some group hierarchies exist in all cultures, such as age and gender, others are culturally bound (Sidanius and Pratto 1999). For example, India has a distinctive caste system that proscribes status at birth (Srinivasan et al. 2016). Though it is exclusive to Indian culture, it displays features similar to other social hierarchies in that those who place importance on this system (i.e., those who prefer the caste hierarchy) express beliefs about group abilities that justify the existing status of groups. Though some hierarchies, such as race, exist in many cultures,

the relative status positions of racial groups are specific to the country in which these groups live (Axte et al. 2014; Snellman and Ekehammar 2005). Moreover, when the relative status positions between groups are constant across countries (e.g., gender), the *degree* of this stratification changes across cultures. For example, national indices of gender inequality vary depending upon the average level of sexism expressed by those within each country (Glick et al. 2000). Culture-level variables also affect more general preferences for hierarchy – individuals' preferences for hierarchy depend on their status in individualistic societies, whereas preferences for hierarchy are expressed equally across status in collectivistic societies (Lee et al. 2011). Culture, then, plays an important role in the structure and degree of stratification in hierarchically organized societies.

Physical Appearance and Status

Characteristics other than social identity, such as physical features, can affect one's position within social hierarchies. For example, the degree to which an individual is considered physically attractive can affect status-related outcomes – specifically, physically attractive people are accepted into high-status groups more easily (e.g., Krendl et al. 2011). However, the relationship between one's attractiveness and status-related outcomes seems to be more important for women than men. For example, attractiveness predicts a more positive evaluation of female teachers, but not male teachers (Buck and Tiene 1989). Though women's physical attractiveness can increase or decrease their position in hierarchies, this does not seem to be the case in men. Instead, physical attractiveness in men is related to their own attitudes toward hierarchy – attractive men have less egalitarian beliefs and behaviors than unattractive men (Price et al. 2015). Therefore, physical attractiveness does seem to play a role in social hierarchy, though its specific role is dependent on gender.

Weight is another physical feature related to social status. Although there is some variation

in ideal weight across status, culture, and identity, many cultures place a greater value on thinness (Swami et al. 2010). Attributions of controllability seem to be the key component of anti-fat prejudice, such that beliefs that attribute weight to personal control justify prejudice toward fat people – this is especially true in cultures that value thinness (Crandall et al. 2001). People who prefer hierarchy express higher levels of anti-fat prejudice and discriminate more often against fat people (O'Brien et al. 2013). Therefore, like attractiveness, weight is a physical feature that plays a role in social stratification.

Conclusion

Social hierarchies, social organizations in which people are stratified by group membership, lead to unequal access to material and social resources (Axte et al. 2014; Sidanius and Pratto 1999; Campbell et al. 1986). Though some theoretical perspectives emphasize self-enhancement motives in the formation and maintenance of hierarchies (SIT; Tajfel and Turner 2004), others emphasize the role of hierarchy justifying beliefs and motives (SDT; Sidanius and Pratto 1999; SJT; Jost et al. 2004). Regardless, not all individuals endorse hierarchical arrangements to the same degree – individual differences in attitudes, personality traits, and social identity predict preference for social stratification (Ho et al. 2015; Snellman and Ekehammar 2005; Axte et al. 2014). Social identity, as well as physical features such as skin tone and attractiveness, largely determine one's status in a hierarchy (King and Johnson 2016; Krendl et al. 2011). However, the structure and degree of stratification within any hierarchy largely depends on the culture in which group members live (Srinivasan et al. 2016; Glick et al. 2000; Lee et al. 2011).

Cross-References

- ▶ Beliefs
- ▶ Power
- ▶ Status

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Social Humor

► Model of Humor Styles

Social Identification

► Labeling

Social Identity Theory (SIT)

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Definition

Theoretical approach to intra- and intergroup life emphasizing the importance of positive group distinctiveness (i.e., favorable comparisons to other groups).

Introduction

Social identity theory (SIT) was developed by Henri Tajfel in the late 1960s and early 1970s. In part, his theoretical approach recognized that many other approaches to phenomena such as intergroup relations relied heavily on notions of intergroup competition (largely for tangible resources, such as oil or land) and on individual differences (e.g., authoritarianism) as explanations for group life. Underlying SIT is a simple yet elegant idea: at any particular moment in time, humans categorize themselves along a continuum ranging from a completely personal and idiosyncratic identity (emphasizing the aspects that make us distinct from others) to a completely social or group identity (emphasizing the common aspects shared with ingroup members). In essence this distinction captures one's conceptualization or representation of "me" (self) to "us" (collective). The relative salience of one's identity (self vs. collective) in the moment is a key factor theoretically driving and shaping one's thinking and behavior. SIT has arguably become one of the most influential and generative social psychological theories of the twentieth century, giving birth to self-categorization theory (SCT), optimal distinctiveness theory, the common ingroup identity model, and intergroup emotions theory, among others (see elaborations below). Many researchers consider SIT critical to a psychological

understanding of intergroup life (e.g., prejudice) and intragroup life (e.g., norm adherence).

Theoretical Underpinnings

The central notion underlying SIT is the recognition that we can identify ourselves solely in terms of our idiosyncratic selves (e.g., "I was born on January 1st," "I have a weakness for chocolate") and our collective or group selves (e.g., "We Canadians are passionate about hockey"), to any point in between (e.g., Tajfel 1978; Tajfel and Turner 1979). Group identities are theoretically important for providing a sense of not only who we are but how to think and behave (e.g., Abrams et al. 1990). That is, when identifying as a group member (e.g., Canadian, professor, student), the group in question, on its own and/or relative to other groups, offers information about the relevant norms necessary to navigate the social world and be accepted by others.

According to SIT, a central goal in human life involves striving for positive social identities. That is, we value membership in important, prestigious, and relatively distinct groups. But groups, like people, do not exist in a vacuum. Indeed, distinguishing one's social group from another group or groups plays a key function in our social lives. Although groups value being different from one another, too much similarity between groups (e.g., Canadians and Americans) can threaten group members and motivate the need to actually or psychologically heighten the differentiation between the groups, particularly among those highly identified with their group (see Jetten et al. 2001). As an illustration, Canadians are known to highlight their differences from Americans (e.g., public health-care system, support for gun control, passion for hockey) under the identity threat of being mistaken for American. These processes are recognized as being natural, and even critical, for functioning and coping with social life. However, there are also negative consequences. As noted by Brewer (2003), "Accentuation of category differences, combined with a need for positive distinctiveness (intergroup

social comparison), results in ingroup favoritism. The important point [from an SIT perspective] is that ingroup classification precedes rather than derives from interpersonal processes” (p. 36). The emphasis in SIT is clearly about group processes as fundamental and critical to understanding others, both as group members and also as individuals. Some of the prominence afforded to SIT presumably results from the robust finding that most intergroup outcomes, particularly in lab-based settings, involve ingroup favoritism (i.e., giving praise and/or resources to one’s own group) rather than outgroup derogation or hostility (see Brewer 1979). In fact, trends toward ingroup favoritism (vs. outgroup hostility) are becoming increasingly strong as cultural norms continue to shift toward less overt expressions of anti-outgroup prejudice (Greenwald and Pettigrew 2014). Such trends render SIT increasingly relevant to understanding the psychology of group life.

From an SIT perspective, therefore, we can think of ourselves in terms of our collective (vs. personal) identity, and we do so to keep or gain positive social value. This often necessitates differentiation from other groups, even (or especially) from similar ones, in ways that can favor one’s ingroup at the expense of another. Accordingly, SIT proposes that we strive to keep the balance of intergroup life largely in our own group’s favor. If, after engaging in social comparison with another group, the outcome is positive or favorable (i.e., “we” come out favorably relative to “them”), we continue to invest in and bask in our social group’s evaluative positivity. But sometimes comparisons with other groups reveal the lower status, ability, or value in one’s ingroup. At this point, Tajfel argued that group members seek change in the situation. Some of these strategies can be personal (not group) in nature and in fact can involve leaving the group (i.e., social mobility) where possible. That is, *permeability* of group boundaries is important in determining how unfavorable social comparisons are handled. Two other relevant factors involve the *stability* (vs. instability) of the intergroup dynamic, such as whether the relations between groups are considered likely to change or not, and the perceived

legitimacy (vs. illegitimacy) of the intergroup relation or dynamic. Here stability refers to the likelihood of change in intergroup relations, whereas legitimacy refers to the justness or fairness of the dynamic. Of course, the psychological element, specifically the *perception* of intergroup relations, is critical. Other reactions to intergroup comparisons that are unfavorable to the ingroup are decidedly psychological in nature, such as redefining the characteristics along which one’s group is judged or the importance/valence of such dimensions. Consider a situation where one group (e.g., Canadians) scores less favorably relative to another group (e.g., Americans) on a particular dimension of evaluation (e.g., military power). Those in the disadvantaged group, here Canadians, can downplay the relevance of military power and/or make salient other dimensions whereby Canadians score positively in intergroup comparisons (e.g., peacekeeping, hockey prowess). Alternatively we can push back against the source of the negative comparison (e.g., anti-outgroup action). If exiting our ingroup is not possible, or comes with great cost, comparisons may shift from intergroup to intragroup, that is, comparing oneself to less well-off ingroup members to restore positive evaluations more central to the self.

Methodological Practices

As a very broad and comprehensive theory, SIT is adaptable to virtually any research design or context. Yet advocates of the SIT framework popularized several methodological practices that have become associated with SIT. First, SIT researchers were keen to study intergroup life in the laboratory, which poses a series of challenges, including the fact that people come into the lab already as group members (racial, sexual, socioeconomic, etc.), complete with idiosyncratic or ingroup histories and complications. Given the strong emphasis placed on experimental research in social psychology, Tajfel and his followers often randomly assigned participants not only to group conditions but to group categories themselves. This random assignment to novel ad hoc groups

became known as the *minimal group paradigm* (*MGP*). As observed by Rupert Brown (2010, p. 39), the goal was “. . .to create groups which had been stripped bare of all of the usual concomitants of group life – face-to-face interaction, an internal group structure, a set of norms, relationships with other groups, and so on.” Groups in this paradigm are “minimal” in that a participant simply learns that they are a member of one group and not the other (an exercise in categorization). Sometimes these random group assignments were allegedly based on performance (e.g., over- vs. underestimating dots on a visual screen) or preference (for artwork by Klee vs. Kandinsky), but the assignment can even be blatantly random and nonetheless instill group categorization in participants’ minds (e.g., Abrams et al. 1990, Hodson et al. 2003, Hodson and Sorrentino 2001).

Following such minimal group assignment, participants typically engage in tasks relevant to the research question at hand. For studies on the influence of ingroup (vs. outgroup) norms, for instance, participants have subsequently made judgments about the nature of stimuli or group norms after learning of the perceptions of other people (see Abrams et al. 1990). Most well known, however, are studies that utilized what came to be known as the “Tajfel matrices” (Bourhis et al. 1994). In such studies, participants are tasked with assigning points or money to other people, who are indicated as being a member of one’s group or an outgroup. Importantly, participants are informed that they will not personally benefit from such distributions, to presumably alleviate concerns about self-interest as a potential confound. That is, to the extent that a participant favors their own group over another, this action presumably reflects an intergroup (not interpersonal) dynamic in action. A particularly clever aspect of the Tajfel matrices is that the researcher can systematically study the distribution of resources or other forms of social value as a function of group status and can also pit different strategies for allocating resources against each other to test their relative prevalence. For instance, participants can allocate an equal number of resources between representatives of the groups (i.e., “parity”). Or participants can adopt

allocation strategies that award the most points that their ingroup can receive, regardless of the amount given to the outgroup, known as “maximizing ingroup profit.” But the most psychologically interesting allocation strategy is known as “maximum differentiation,” whereby participants choose a distribution pattern that does *not* give many resources to the ingroup but critically is particularly harsh toward the outgroup. In essence, maximum differentiation gives a “hit” to the ingroup but an even stronger hit to the outgroup, in ways that maximize the *relative* intergroup differential in the ingroup’s favor. As a methodological advance, the Tajfel matrices offer a nuanced and practical way to examine intergroup dynamics in the lab. The interested reader is referred to the authoritative text by Bourhis et al. (1994) for further and more specific details on the use of these tools.

Theoretical and Empirical Outgrowths from SIT

One of the chief indices of the importance of SIT in the domain of intergroup relations concerns the vast number of important advances that were generated in its wake. The most direct outgrowth took the form of self-categorization theory (SCT; Turner et al. 1987), spearheaded by John Turner, who, with Tajfel, laid out many of the central tenets of SIT (e.g., Tajfel and Turner 1979). Rather than emphasizing the person-versus-collective identity continuum per se, SCT argued that we think of our identities at varying levels of abstraction, ranging from person, to group, to higher levels (nations or even humanity). Relative to SIT, the SCT approach de-emphasized motivational needs (and concerns with self-esteem) and placed priority on cognitive factors, presumably reflecting the social-cognitive revolution of the 1980s. Central here is an emphasis on the group *prototype*, or mental representation of the group, and in particular how the perceiver assimilates or contrasts a social target (including oneself) to the prototype. Here the notion of *depersonalization* does not carry a negative connotation but simply recognizes that the idiosyncratic self becomes

de-emphasized when social identities are salient. This depersonalization process is perhaps best reflected in the social identity model of deindividuation effects (Postmes and Spears 1998) that is particularly pertinent to explaining crowd behavior (e.g., rioting). From this perspective, people in crowds do not “lose themselves” (as per classical deindividuation accounts) but rather become sensitive to and adherent to the social norms of the collective. That is, people might not “act like themselves” in crowds, but not because they “lose themselves” but because they fit in with a social categorization and follow those local (group) norms. In such contexts, people shift *from* their personal identity *to* a collective identity.

Like SIT, SCT emphasizes the degree to which group differentiation is relevant. SCT emphasizes the notions of comparative fit (differences between groups are perceived to be greater than those within groups) and normative fit (group members are perceived to behave in accordance with our expectations). For example, categorization processes are maximized if the differences between lawyers and athletes are perceptually noticeable, and each group is perceived to have characteristics and behaviors consistent with our understanding of those groups (e.g., being argumentative for lawyers, being health conscious for athletes). These processes are considered fluid and very context dependent.

Several other prominent theoretical approaches also grew from the SIT framework, such as Brewer’s (1991) optimal distinctiveness theory. This approach recognizes that we have competing needs for inclusion (within our social groups/identities), but also needs to differentiate ourselves from others. As such, people seek to define themselves in ways that can meet both needs, in order to avoid feeling over-included (or over-assimilated) by the social identity or over-differentiated (or excluded) at the personal level. The main thrust of this position, therefore, is that the psychological space *between* the personal and social selves best satisfies our needs. Such middle-ground identities, therefore, are considered the most valuable and invoke the most identification among group members. Brewer’s model thus

builds on, and pushes off from, the basic tenets of SIT.

Several theoretical approaches devoted to resolving intergroup tensions build on several of the central tenets of SIT (and SCT). In the interest of brevity, here we discuss the common ingroup identity model (Gaertner and Dovidio 2000), given its prominence in the literature. This approach recognizes the centrality of categorization and social identification in group life. In fact, categorization is seen as relatively inevitable, but the nature or process of categorization is considered malleable. In essence, the common identity approach argues that there are significant benefits to be gained from extending the ingroup boundaries to include members of the outgroup. This process of *recategorization* redraws group boundaries, capitalizing on our tendency to prefer our ingroups by expanding the metaphorical tent and in turn expanding the scope of those that benefit from this favorability. In reference to SCT, the common ingroup model encourages group members to categorize at a higher, more inclusive, more abstract level. In a clear example of the benefits of recategorization, Dovidio and colleagues (2004, Study 2) exposed White participants to news reports on the threats to Americans (or to White Americans) by an outside terrorist agent (Al-Qaeda). Participants exposed to information stressing threats to all Americans (relative to other conditions) were subsequently more inclusive in their categorizations. Specifically, Blacks were more included into the White Americans’ ingroup. Critically, this recategorization also lowered prejudice toward Blacks. These methodologies are easily adaptable to electronic platforms. For instance, Canadians playing violent video games with an American “teammate” (vs. alone) demonstrated significantly more positive American attitudes after the game, with much of the effect explained by the recategorization of group boundaries (Adachi et al. 2016). Such conceptualization and research effectively capitalize on the tendency to show pro-ingroup attitudes by redrawing the boundaries to include (those formerly considered to be) members of the outgroup.

Another theoretical model that builds on SIT is known as the intergroup emotions theory (Devos

et al. 2002). Drawing on SIT, this approach recognizes that people routinely think of not only their personal identity but of their social identity. One's thinking about the self and ingroup become relatively intertwined. Novel to the approach by Mackie, Smith, and colleagues is the integration of cognitive appraisal approaches into the SIT framework. Instead of examining how a situation affects one as a person and considering the ensuing interpretation and emotional response, the intergroup emotions approach suggests that people also ask how a situation affects their *ingroup* (and how they feel and act accordingly). For instance, when an outgroup violates ingroup norms (e.g., concerning sex or eating), this can induce disgust reactions, which in turn instigates avoidance of that outgroup. Alternatively, a cognitive appraisal that an outgroup is threatening or powerful leads to fear or anger, which can instigate action tendencies relevant to escaping the situation (if afraid) or attacking the outgroup (if angry). A key contribution of this theory is this incorporation of emotions to the SIT domain, which did not formally propose such emotions in a systematic manner.

Nuances and Conceptual Clarifications

One of the outstanding or unsettled issues underlying SIT concerns the reasons *why* people invest so heavily in their groups. Proponents of SIT have long argued that self-esteem is critical. Specifically, SIT proposes that the act of discriminating against an outgroup raises one's self-esteem and also that those low in self-esteem engage in discrimination in order to improve their situation. That is, self-esteem is both a cause and a consequence of discrimination. A comprehensive review of the literature (Rubin and Hewstone 1998) concluded that there is not full or clear support for the self-esteem hypotheses of SIT, with the authors concluding that much of the confusion concerns issues of measurement. In particular, most studies have examined personal self-esteem to the general neglect of *social* state self-esteem, how one presently feels about one's social group(s). Relative to personal self-esteem,

social esteem is conceptually more relevant to intergroup life. Rubin and Hewstone speculate that the inconsistent findings in the literature probably explain why the self-esteem hypothesis (or hypotheses) has been de-emphasized in more recent SIT and SCT research. Indeed, social identity theorists increasingly emphasize motivations other than self-esteem. For instance, Hogg (2014) argues that people identify with their groups, in large part, in order to provide clarity and reduce uncertainty (i.e., an epistemic rather than an esteem motive). In support of such claims, research demonstrates that certainty-oriented individuals (i.e., those who gravitate toward certainty and what is already known) are particularly likely to discriminate against outgroups when the context is characterized by uncertainty (Hodson and Sorrentino 2001). Clearly more research is needed to fully understand the motivations underlying social identity processes.

Another issue of debate concerns whether or not ingroup identification itself is a *necessary* predictor of bias toward other groups. Some have argued that identification predicts bias and that SIT has long stipulated this relation (e.g., Gagnon and Bourhis 1996). But others suggest that the actual relation is weak or nonexistent (Hinkle and Brown 1990), and still others have argued that SIT never posited that identification plays this role (e.g., Turner and Reynolds 2001). (Incidentally, Turner and Reynolds also argue that SIT never posited a self-esteem hypothesis, highlighting the lack of agreement, even among proponents of SIT, about the core underlying features of the theory.) These disagreements about the meaning, intentions, and underlying mechanisms of SIT offer fertile ground for future researchers.

Some of the confusion underlying the SIT theory might involve its disregard of individual differences (e.g., Turner and Reynolds 2001). That is, many proponents have argued that person-based factors play little role in explaining intergroup life (see Hodson and Dhont 2015, Table 1). Yet, as argued elsewhere, Tajfel posited a continuum between personal self and collective identity, not a sharp demarcation (e.g., Hodson et al. 2013). Moreover, Tajfel (1978, p. 402)

explicitly recognized the importance of individual differences in social life:

If I take part in a race riot or strenuously and vocally support my local team during a football match, or demonstrate against the oppression of my group by another group, I interact with another group – as Sherif wrote – fully in terms of my group identification. However, *the truism that marked individual differences will persist even in these situations is still valid.* [emphasis added]

Presumably his intention was not to ignore or negate person-based factors (see Hodson et al. 2013, Hodson and Dhont 2015) but rather to (rightly) emphasize the situational factors. Many contemporary theorists call for more integration between person-based and situation-based accounts (Hodson 2009; Hodson and Dhont 2015). For instance, arguments that the identification-discrimination link will be moderated by outside factors (e.g., Turner and Reynolds 2001) would be strengthened by including (rather than excluding) individual differences as potential moderators.

Conclusions

SIT emerged at a critical juncture of research on intergroup relations, urging researchers to consider the more social (vs. personal) aspects of prejudice and discrimination. Moreover, SIT calls on researchers to consider processes of categorization and identification not only as normal but as fundamental to group life. For these reasons, SIT has left an indelible mark on the field that is difficult to ignore or overstate. Few theoretical approaches can successfully claim to be so encompassing, so generative of later prominent theories, nor as relevant to contemporary thinking about social and intergroup life. The underlying principle that social or group identities are relevant to perceiving and thinking about the social world is both appealing and valuable in explaining our social nature.

Cross-References

- ▶ [Discrimination](#)
- ▶ [Groups](#)
- ▶ [Identity](#)

- ▶ [Prejudice](#)
- ▶ [Racial Identity](#)
- ▶ [Sexual Identity](#)
- ▶ [Uncertainty-Identity Theory](#)

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Social Image

► Social Incentives

Social Incentives

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Synonyms

Acceptance; Social image; Social motives; Social rewards

Definition

Social incentives concern a broad range of interpersonal rewards and motivations that encourage people to behave in a socially valued and approved manner. Social incentives include projecting a positive social image and reputation, gaining social acceptance, and gaining a better place in the social hierarchy.

Introduction

Two types of incentives are often considered as the underlying causes of behavior – economic incentives and social incentives (Buss 1983). While economic incentives refer to clear and easily quantifiable monetary benefits that one can gain from performing a specific behavior, social incentives are more loosely defined interpersonal rewards and motivations for behaviors which are usually socially valued.

The idea that social incentives can motivate behaviors is based on the notion that human beings are social animals with a strong need to belong (Baumeister and Leary 1995). This notion suggests people will be willing to engage in socially desirable behaviors relate to the

motivation to belong and serve as social incentives, such as signaling a positive social image (e.g., Ariely et al. 2009); gaining reputation, social acceptance, and approval (e.g., Bénabou and Tirole 2006; Veroff and Veroff 1980); receiving affection, praise, and love (Buss, 1983); as well as reciprocating and avoiding social disapproval (e.g., Fehr and Falk 2002). Social incentives play a central role in human behavior when relationships among individuals are based on social ties rather than on money (Fiske 1992).

Social incentives differ both from economic incentives and from intrinsic incentives (i.e., intrinsic motivation). Incentives linked to intrinsic motivation relate to private behaviors that do not necessarily involve interpersonal aspects (such as freely playing an enjoyable game), whereas social incentives are social in nature and require a social, interpersonal setting. To illustrate, paying students for good grades would constitute a financial incentive, whereas praising students in front of the class would constitute a social incentive, and allowing students to perform tasks they find interesting and enjoyable privately without any extrinsic rewards would reflect on their intrinsic incentives.

Social incentives are closely related to people's social, other-regarding preferences (i.e., the extent to which they care about other people's outcomes). The presence of social incentives is one of the reasons why people choose to engage in certain prosocial behaviors, such as helping, reciprocity, and cooperation, even when such behaviors contradict their economic self-interest (Bénabou and Tirole 2006; Fehr and Falk 2002).

Social incentives can be strong motivators of behavior, especially in public settings. People act more pro-socially when their behavior is observable by others than when the behavior is private (e.g., Andreoni and Petrie 2004; Ariely et al. 2009). For example, the decision to take part in the effortful act of voting is affected by the presence of social incentives to perform a publically observable act (in addition to the intrinsic motivation of self-expression and the satisfaction from fulfilling a civic duty). Indeed, introducing the option of an unobservable form of voting (i.e., postal voting), which decreases the cost of voting for the individual and should therefore theoretically increase voter

participation, has been in fact linked with *lower* voter participation, especially in small and close-knit communities (Funk 2010). This observation suggests that voting in these communities has likely been influenced by social rather than intrinsic incentives. As further evidence for the rewarding nature of social incentives, preliminary insights from neuroimaging studies using fMRI suggest that specific brain regions related to rewards (i.e., ventral striatum/nucleus accumbens) are also involved in the reaction to social incentives such as reputation and in avoidance of social punishments (e.g., Kohls et al. 2013).

Social Versus Economic Incentives

When individuals choose to perform socially valued behaviors, such as donating to charity or buying a hybrid car, these behaviors can be motivated by monetary gains (e.g., tax benefits). Economic theory suggests that appropriate monetary incentives are necessary to motivate behavior. Yet, people often engage in behaviors that are costly to them even when monetary rewards are absent. In other instances, people do not change their behavior even when monetary incentives to do so are introduced. Costly behavior that is not affected by additional monetary incentives is often explained by social incentives. For example, Ariely et al. (2009) showed that when a donation is public, adding a monetary incentive to the existing social incentive to project a favorable social image did not increase the effort to donate to a socially favorable charity. Ariely and colleagues explained this finding in terms of a social incentive to create a positive social image of a virtuous person, concluding that for public behaviors, social incentives are effective in facilitating prosocial behavior. However, in private settings, monetary incentives are required to facilitate the same prosocial behavior.

Offering monetary incentives for socially valued behaviors may decrease or even eliminate behaviors that are driven by social incentives (i.e., reputation, acceptance, and approval) because the monetary incentive can lead to crowding out of the social incentives (Bénabou and Tirole 2006; see Titmuss 1970, for a theoretical model). For example, for highly socially

valued prosocial behaviors such as blood donation, it is possible that attempting to facilitate the behavior by offering money to blood donors would not increase or even reduce donations (Titmuss 1970). Empirical findings started to support this argument, showing that small monetary incentives fail to facilitate behaviors like recycling (Burn 1991) and collecting charity donations (Gneezy and Rustichini 2000), in some occasions even decreasing these behaviors. In other words, when money is offered to act prosocially, the social incentive of signaling to others that one is prosocial and creating a favorable image and reputation is no longer present.

Two additional important social motives introduced in the economic literature on social incentives are reciprocity and the desire for social approval (Fehr and Falk 2002). As with maintaining and signaling positive self-image, when a behavior is motivated by the social incentive of receiving social approval, introducing an additional economic incentive for the same behavior may backfire, reducing people's motivation to engage in this behavior rather than facilitating the behavior.

Social Incentives at Work

Social incentives have been studied in relation to people's behavior at work. Since the workplace usually involves several interrelated individuals, social incentives are likely to influence behaviors and performance in work-related settings (for a recent review, see Ashraf and Bandiera 2018). According to Ashraf and Bandiera's (2018) review, the effect of social incentives on productivity is positive and economically significant, resulting in 7–16% increase in productivity.

In the work-related context, economic incentives (i.e., compensation) are considered to be the central reward for performance and a very salient motivator of behavior. However, even here, social incentives can influence the benefits and efforts, shaping individuals' motivation. Moreover, social incentives can interact with economic incentives, shaping individuals' behavior. In certain cases, especially when the social group consists of peers, the existence of a social incentive can undermine the expected positive effect of economic incentives on workers' effort and

productivity. For example, evidence from personnel data among farm workers that worked together to introduce a piece-rate payment scheme, in which more effort invested by a worker reduced the average payment of other workers, led to decreased workers' efforts (Bandiera et al. 2005).

Individual Differences

People differ in the extent to which their behavior is influenced by different social incentives. Such differences can be attributed to demographic factors such as gender or age and other individual characteristics such as specific traits.

In his general classification of social rewards, Buss (1983) suggested two categories of social incentives – process incentives and content incentives. Process incentives concern the mere presence of others, receiving attention from others, receiving a response from others, as well as other people initiating interpersonal contact. Content incentives concern receiving deference, praise, sympathy, and affection from others. Gender differences may exist in content incentives (Buss 1983). For example, some research indicates that women may value sympathy more than men. Individual differences in certain traits may further explain the extent to which some forms of social incentives would be viewed as rewarding. For example, for shy people, attention from others would be less rewarding, and for people with low self-esteem, praise and affection would be more rewarding (Buss 1983).

From a developmental perspective, the Theory of Social Incentives (Veroff and Veroff 1980) suggested that social incentives are general social goals that develop from early infancy, throughout childhood and adulthood. Thus, one's social incentives (i.e., goals) change throughout a lifespan, moving from attachment, assertiveness, relatedness, belongingness, and integrity. The Theory of Social Incentives argues that while some general categories of social incentives exist, the specific social incentives that motivate behavior vary substantially between individuals. It is important to note that this developmental framework is more closely related to social motives or goals rather than rewards for behavior (Buss 1983).

Conclusion

Social incentives are interpersonal rewards that motivate human behavior. The rewarding nature of social incentives is based on the fundamental human motive to seek affiliation with other humans. Social incentives drive human behavior in interpersonal and public contests, usually motivating socially valued behavior to gain non-monetary rewards, such as affiliating with others, creating or maintaining a favorable social image, and being socially accepted.

Cross-References

► [Reinforcement](#)

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Social Inclusion

► [Need to Belong \(Baumeister and Leary\)](#)

Social Information Processing

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Synonyms

[Social perception](#)

Definition

Social information processing refers to the sequence of mental mechanisms that occur as humans extract social information (i.e., emotional

expressions on faces) from the environment using a series of cognitive systems (e.g., attention, memory). Such systems convert or modify the incoming social information in systematic ways in order to facilitate interpretation and understanding of the social world.

Introduction

What is the process humans use to perceive, interpret, and predict others' thoughts, intentions, and actions? As humans, we encounter a plethora of social stimuli in our environments every day and utilize a series of highly adaptive systems (i.e., attention, perception, memory) to make sense of the incoming information. Together, these systems systematically alter the information in order to make it interpretable. Ultimately, the aim of using these systems and, more generally, of social information processing is to allow us to make attributions about others. Such attribution-making process varies interpersonally in that two people may perceive the same event yet conjure up two different attributions. The bases of individual differences in perception are preconceptions, or "schemas," that are acquired with experience as people encounter people, objects, or events.

Mental Representations of Social Information

Schemas (also known as schemata) are mental representations derived from past experiences that are stored in long-term memory (for a review, see Fiske and Linville 1980). As organizing structures, schemas represent a fundamental component of social information processing because such representations provide the framework that facilitates the acquisition, interpretation, and retrieval of new information. In fact, people interpret the world around them by accommodating newly perceived information to preexisting schemas that are activated depending on several factors (i.e., fit, context, priming). For instance, people interpret a facial expression as "angry" via the activation of the "angry face" schema. This schema allows the perceiver to categorize the expression as "angry" based on similarities

between the stored representation and the novel face (i.e., wrinkled forehead, glaring eyes). Upon first conceptualizing the notion of schemas, Bartlett (1932) assumed that schemas corrupted the process of social perception by promoting the comparison of new information to old, often loosely similar, mental representations. However, the concept of schemas was reconceptualized during the mid-1970s to highlight the manner in which schemas increase cognitive efficiency by freeing up resources otherwise tasked with the continual processing of novel information (see Hastie 1981; Brewer and Nakamura 1984).

Encoding, Storage, and Retrieval

In order for a schema to affect processing, it has to become activated from the highly adaptive system known as "memory" (see Bower 1967, for a more detailed history of memory research). In fact, before schemas form, memory facilitates the process of perception by allowing for the storage of limitless amounts of social information (i.e., facial appearance, facial expressions) to occur. The first step of the perception process involves the act of *encoding*, which refers to the process of perceiving cues from social stimuli (i.e., people's faces, social exchanges) that are then stored in memory for later retrieval. Importantly, the process of encoding need not be mediated by consciousness, for humans possess the ability to encode information they perceive below the threshold of consciousness (for a review of implicit measures in social cognition research, see Fazio and Olson 2003). Once the process of receiving informational input occurs, people either attach the information to an old experience stored in memory or write a new experience into their mind. Next comes the process of *storing* social information in long-term memory for later recall. The extent to which social information is stored or forgotten is contingent on several factors such as processing capacity and frequency of processing that type of information. For example, the more we encounter an averted gazing fearful face and deem it functional (i.e., link it to approaching danger), the more likely we are to store it in long-term memory as a schema. After storage, we consolidate future

experiences of the same type to existing stored experiences for later retrieval. The process of *retrieval* refers to recovering previously encoded information. The process of retrieval is contingent on whether the information is useful in helping us identify information in context. If the information is deemed useful, then the processing systems bring it to attentional focus.

Attention

The key to successfully encoding, storing, and retrieving social information from memory is attention. Notwithstanding the fact that we need not consciously attend to something in order to retrieve a social schema (see automaticity; Bargh 1994), we are more likely to encode and store information in long-term memory if the more we pay conscious attention to it (Atkinson and Shiffrin 1968). Attention can be conceptualized using the notion that humans are social information processors that are bounded by the limitation of only being able to attend to a limited amount of information at a time or risk cognitive overload. This conceptualization forms the basis of multiple mainstream models of attention whose focus is to explain attentional focus in light of people's limited cognitive capacity (for a review, see Treisman 1969). According to these "bottleneck" models of attention, selective attention requires that a stimulus (i.e., person, message) be filtered so that attention can be directed. Such filtering process brings into focus the attended stimulus, and it does so contingent on a multitude of factors associated with the stimulus itself (i.e., discriminability/novelty) or with the perceiver (i.e., relevancy to goals, level of arousal it elicits). For example, people are able to focus their attention on a single conversation while filtering out all other voices in a noisy room (known as the *cocktail party effect*; Cherry 1953) until a novel, relevant event occurs that causes them to divert their attention (i.e., hearing someone else mention their name). Attention, in such case, facilitates the encoding of stimuli and promotes long-term storage and later retrieval of such information by appropriating attentional resources to the stimulus. Attention is also critical for the development of schemas (and their storage

and later retrieval) in that people devote attentional resources as they encounter a novel stimulus and form its schematic representation.

Conclusion

As naïve realists, our senses provide us with direct awareness of the social world around us. Given the limited processing and storage capacity of our cognitive functioning, we have developed a highly adaptive process of perception that allows us to make quick, albeit inaccurate at times, interpretations. Sensory inputs in the form of voices, visual representations, tactile bodily sensations, etc., activate mental representations stored in memory that facilitate interpretation of others' behaviors, internal mental states, and/or intentions. Ultimately, social information processing allows people to meet their need to explain others behaviors by assigning causes to actions.

Cross-References

► [Person Perception and Accuracy](#)

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Social Inhibition

- ▶ [Shyness](#)
- ▶ [Type D Personality](#)

Social Intelligence

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Synonyms

[Emotional intelligence](#); [Emotional-social intelligence](#)

Definition

Social intelligence is the ability to successfully interpret and navigate social situations by reading the emotional-social climate, communicating with others, and effectively influencing the social situation.

Social intelligence is defined simply as the ability to get along well with others (Kaukiainen et al. 1999). Social Intelligence or “SI” is used not only to connect but also to influence other people. It is a culmination of knowledge of the self and

others in any given social situation. These skills include nonverbal cues, insight, social perception, and empathy (Kaukiainen et al. 1999). Social intelligence skills are used to understand a social situation in a variety of different contexts and successfully communicate with others in different situations. In any given social situation, high social intelligence allows an individual to gain the desired verbal or behavioral response from people within that group (Albrecht 2004). Someone with high social intelligence is more capable of reading the emotional and social climate of a room, behaving in a way that fits that climate, and influencing others in the room to respond accordingly. People who possess high social intelligence also attract others to them by putting others at ease by reading the behavioral and verbal cues and fitting their own behavior to match (Albrecht 2006). They do not lose themselves in the situation but successfully navigate the situation by emphasizing parts of their own personality that allow them to communicate successfully. Albrecht (2006) claims it is the authenticity, clarity, empathy, and situational awareness of a socially intelligent individual that successfully and unconsciously draws others to them. This allows socially intelligent people to collaborate, connect, and win respect from others. As a result, socially intelligent people have successful friendships, get along well with others, and successfully function in a business setting.

Social Intelligence is one of Gardner’s (1983) multiple intelligences which paved a new way of understanding intelligence. Albrecht (2006) groups Gardner’s multiple intelligences into six main categories: abstract, practical, aesthetic, kinesthetic, emotional, and social. Of these categories, emotional and social intelligence are often combined. Emotional intelligence is defined as “an array of emotional and social abilities, competencies and skills that enable individuals to cope with daily demands and be more effective in their personal and social life” (Bar-On et al. 2003, p. 1790). Emotional intelligence has a more introspective quality than social intelligence. Even though the two are related, emotional and social intelligence have distinct purposes. Albrecht

(2004) defines social intelligence as an interpersonal skill while emotional intelligence is an intrapersonal skill. Social intelligence is the ability to evaluate the emotions of other people in a group, whereas emotional intelligence is the ability to identify one's own emotions within the group. Social and emotional intelligence work together to create a fuller understanding of the self and others. Considering their overlapping properties, emotional intelligence and social intelligence are often treated synonymously – at times studied as one single construct. For research efficiency purposes, emotional and social intelligence are often called emotional-social intelligence or just referenced as emotional intelligence. Research does not often focus on social intelligence without including emotional intelligence.

Despite the similarities between these two forms of intelligence, Bar-On (2006) found that emotional and social intelligence are at the very least distinct from cognitive intelligence such that different neural systems of the brain are activated during emotional-social processes compared to cognitive processes, and judgment and decision making coincide with emotional-social neural systems rather than cognitive neural systems. When participants had similar levels of cognitive intelligence, those with lower emotional-social intelligence were more likely to make poor judgments and decisions (Bar-On et al. 2003). This work provided support for Gardner's notion of multiple intelligences as emotional-social intelligence was not a facet of cognitive ability and intelligence but rather its own, neurally distinct intelligence.

When considering the relevant research on the whole, the topic of emotional intelligence garners more research attention, whereas research on social intelligence is comparatively short on empiricism. One exception is the study of social intelligence and leadership. For example, Goleman and Boyatzis (2008) found that good leaders have high social intelligence and their actions and emotions can cause their followers to act and feel those same emotions through mirror neurons. These mirror neurons cause a follower to react the same way as someone in a position of power. When socially intelligent leaders are in

control of their emotions and a social situation, they can influence and change the emotions of the people around them which can effectively change the social climate of a business setting. A socially intelligent leader rallies the people around them to their cause or idea through their authenticity, clarity, empathy, and situational awareness (Albrecht 2006). Goleman and Boyatzis (2008) believe the positive qualities of a socially intelligent leader can be learned and implemented by anyone, even though there is a lack of research concerning either the genetic origins or environments that foster social intelligence.

Although social intelligence is often considered a positive quality, Kaukiainen et al. (1999) offer that understanding the emotions of others without an empathetic response is one possible negative outcome of social intelligence. Understanding the perspective of others but feeling emotionally cold and detached can result in manipulation such that a socially intelligent but unempathetic person can manipulate others to get what they desire without worrying about the emotional repercussions for the manipulated individual. Regarding the negative side of social intelligence, Kaukiainen et al. (1999) also found that there is a significant correlation between indirect aggression and social intelligence in children. Indirect aggression is the use of intentional social manipulation that is more difficult to notice than direct forms of physical and verbal aggression. As a result, this form of aggression often goes unnoticed and without repercussion, highlighting a possible downside of social intelligence.

To adequately comprehend the positive and negative attributes of social intelligence, further research will be necessary. One avenue of research should consider whether there is a reason to treat social intelligence and emotional intelligence as distinct constructs. Much of current research considers social intelligence as a facet of emotional intelligence which limits the research purely on social intelligence. If emotional and social intelligence are consistently correlated, then researchers should decide if social and emotional intelligence should continue to stand as individual intelligences. Further research

should also examine the connection between social intelligence and other forms of intelligence. Research has been conducted on the differences of social intelligence with participants of the same cognitive intelligence level (Bar-On et al. 2003), but future research should consider using participants of differing cognitive intelligence to compare rates of social intelligence. This research could help find if cognitive intelligence is a predictor of social intelligence or if social intelligence is independent from all other forms of intelligence. Lastly, research has focused on the effects of social intelligence in day to day life, but there is little research studying the predictors of high or low social intelligence making that a fruitful avenue for future research.

In summarizing the social intelligence literature, it generally refers to the ability to understand and connect with others in any given social situation. Social intelligence is related to emotional intelligence in regard to the overlapping purpose of understanding the self and others within social situations, but social and emotional intelligence are both distinct from cognitive intelligence. Even though social intelligence is generally understood to help improve communication and efficiency in every day social life, the bulk of research has considered the relationships between social intelligence and leadership skills in business contexts. However, further research should aim to clarify the distinctions between social intelligence and other forms of intelligence, in order to further the understanding of social intelligence.

Cross-References

► [Social Cognition](#)

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Social Interaction

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Synonyms

[Conversation](#); [Social exchange](#)

Definition

Situations involving two or more people, wherein the behavior of each person occurs in response to the behavior of the other.

Introduction

Personality is often expressed and developed through social interactions; thus, exchanges between individuals are in many ways what personality psychologists seek to understand (Mehl et al. 2006; Pianesi et al. 2008). A core concern among personality psychologists is to identify observable, behavioral manifestations of personality, making social interactions one ideal context in which to study it.

Social interactions are situations involving two or more people, wherein the behavior of each person occurs in response to the behavior of the other (Reis and Wheeler 1991). People use

others' behavior to make inferences about their personality, to anticipate their actions, and to regulate behavior accordingly (Pianesi et al. 2008). In doing so, perceptions of oneself and others are often anchored in social interactions.

PERSOC

Social interactions reflect and reveal how people spontaneously behave, the situations they naturally seek or avoid, and the idiosyncratic ways in which they relate to others (Mehl et al. 2006). In addition to providing insights into the nature of personality, social interactions provide a feedback loop into the development of personality (Back et al. 2011). How others react to us and how we feel and think about others during social interactions have the potential to influence who we become.

PERSOC is a theoretical model comprised of four principles (i.e., dispositions, interactions, behavior and perception, and processes) used to describe the interplay of PERSONALITY and SOCIAL relationships that takes place during social interactions (Back et al. 2011). The disposition principle defines (a) individual dispositions, which include mental representations of one's abilities, motives, and temperament, and (b) relational dispositions, which are mental representations of one's feelings, cognitions, and categorizations regarding relationships. The interaction principle explains how social interactions allow individual and relational dispositions to develop and influence one another over time. The behavior and perception principle describes (a) social behaviors as actions that are potentially perceived by others during a social interaction and (b) interpersonal perceptions as inferences about others, about oneself in relation to others, about others' perceptions, and about oneself during interactions. The processes principle emphasizes that (a) dispositions and interpersonal perceptions must be expressed via social behaviors to influence others and (b) dispositions and social behaviors must be perceived by others to influence social behavior.

In short, PERSOC is a framework for understanding the many ways in which personality and social relationships – and the social interactions that they comprise – influence each other. Therefore, it is useful as a set of guiding principles and terms for researchers who wish to study the interplay of personality and social interactions.

Big Five Trait Approach

The Big Five Trait Approach to personality research, as it pertains to social interactions, has specifically guided the investigation of the effects of personality traits on social relationships. Numerous studies have examined the extent to which the Big Five personality traits (i.e., agreeableness, extraversion, openness, conscientiousness, and neuroticism) predict various social behaviors and interpersonal perceptions that emerge through social interactions (e.g., Gosling et al. 2003).

First, there is substantive evidence that agreeable individuals experience greater enjoyment and less conflict during social interactions (Graziano et al. 1996). Agreeable individuals are highly motivated to maintain positive relations with others, which may lead them to generate positive perceptions and attributions of others' behavior. The interaction partners of agreeable individuals, in turn, exhibit more positive social behaviors and report more positive interpersonal perceptions (Gosling et al. 2003). Thus, reciprocity sustains and enhances agreeable people's enjoyment of social interactions.

As with agreeableness, individuals high in extraversion tend to experience a positive behavioral feedback loop when interacting with others. Extraverts tend to initiate conversations, feel comfortable socializing, and see themselves as likable (Gosling et al. 2003). The interaction partners of extraverted individuals, in turn, tend to adopt a passive and attentive role, which reinforces extraverted behavior. Thus, extraverts behave in ways that attract and maintain others' attention, which leads to more favorable reactions in others and perpetuates extraverted behavior during social interactions.

In contrast to the positive feedback loops that characterize social interactions among individuals who are high in agreeableness and extraversion, a negative social interaction feedback loop may take place among those high in neuroticism. Given that individuals high in neuroticism tend to interpret ordinary social behaviors of others as threatening (Magnus et al. 1993), social interactions may create or exacerbate feelings of anxiety and worry. Neurotic individuals tend to perceive less control, feel more self-conscious, and rely on others' behavior to guide their own (Gosling et al. 2003). In addition, the more uncomfortable neurotic individuals feel during social interactions, the more they project similar feelings onto those with whom they interact. Thus, neurotic individuals' social behaviors and interpersonal perceptions may create a negative self-fulfilling prophecy that manifests through social interactions.

While individuals high in neuroticism are predisposed to experience more stressful social interactions, those high in openness are inclined to reduce and prevent conflict during their social interactions (McCrae and Sutin 2009). Open individuals introduce more new conversation sequences during their interactions, which implies that they are motivated to keep conversations going even when previous topics have faded (Gosling et al. 2003). Their interaction partners, in turn, display more relaxed body posture, suggesting that open individuals' accepting nature helps put others at ease. Thus, people high in openness may engage in social behaviors that produce interpersonal comfort among those with whom they interact.

Individuals high in openness tend to experience less conflict due to their greater acceptance of others, whereas those high in conscientiousness may prevent or minimize conflict by showing greater responsiveness to others (Asendorpf and Wilpers 1998). During social interactions, conscientious individuals exhibit behaviors that signal greater attentiveness to their interaction partner's needs, for example, by making more eye contact during initial interactions (Gosling et al. 2003). Interestingly, partners report that conscientious individuals exhibit

more self-conscious behavior during interactions. Although conscientious individuals may elicit less criticism from others due to their well-controlled and responsible social behavior, their desire to act appropriately may lead to social behavior that is initially perceived as self-conscious by their interaction partners.

Methodological Approaches

The complexity of the relationship between personality and social interactions warrants multiple methodological approaches. Personality researchers have examined how personality unfolds through social interactions over time, with unique partners, and in distinct settings. Various methods, including self-report methods and behavioral observation techniques, have been employed to gain access to these multiple perspectives on personality and social interactions.

Retrospective self-report questionnaires provide personalized impressions of social interactions that have been construed and reframed through perceptual, cognitive, and motivational processes (Reis and Wheeler 1991). In such reports, participants respond to items that pertain to their social interactions during a specific time interval ranging from the past week to the past year, which requires them to filter and aggregate events that span extended time periods and involve multiple occasions with different interaction partners. Consequently, retrospective self-reports should not be viewed as descriptions of actual social interaction but as global evaluations that have been filtered through various cognitive and motivational processes. Instead, retrospective self-reports permit the assessment of private behaviors and perceptions that are not accessible through direct observation by the researcher. In doing so, this method facilitates examination of complex interactional phenomena while offering a relatively efficient means of obtaining data.

In contrast to retrospective self-report questionnaires, EMA methods assess daily life events through ongoing, contemporaneous self-reports. EMA requires subjects to evaluate specific, concrete circumstances rather than to infer general

trends across a series of events. As a result, EMA is ideal for evaluating the role of dispositional factors in how we process everyday experiences (Reis and Wheeler 1991).

EMA can be implemented in three different sampling strategies: interval-contingent, signal-contingent, and event-contingent. For interval-contingent EMA, subjects report their experiences at regular, predetermined intervals chosen to demark theoretically or logically meaningful units of time or activity. In signal-contingent EMA, subjects describe their current activities whenever they are signaled by the researcher at intervals that are fixed, random, or combination of both. Finally, with event-contingent EMA, subjects report immediately after the occurrence of an event that meets the researcher's pre-specified criteria. By studying individuals repeatedly and intensively over time, EMA methods allow investigators to explore acute or transient aspects of social interactions that cannot be discerned in summary data.

Self-reports, either in the form of retrospective questionnaires or EMA, have been deemed the criteria for accuracy in personality research; however they do not provide the researcher with an objective measure of actual interactions. Behavioral observation methods are particularly important for studying social interactions, as observable behavior is a key component of understanding the dynamics within social interactions.

Behavioral observation has taken place experimentally (i.e., in lab settings) and naturalistically (i.e., in subjects' typical environments). In lab settings, subjects' behaviors are directly observed, videotaped, or otherwise recorded either obtrusively or surreptitiously (Reis and Wheeler 1991). By holding constant the location, partner, and type of interaction across participants, lab settings allow behaviors of interest to be defined consistently and reliably by the researcher. In laboratories, social behaviors often represent optimal (rather than typical) performance, especially when subjects are aware of being observed. Furthermore, the social interactions are mandated by the researcher, who

determines when, where, and with whom the subjects interact. As a result, lab observation does not offer information about subjects' frequency of socializing, choice of interaction partner(s), and decision to interact rather than to engage in alternative activities.

Naturalistic observation techniques, on the other hand, provide researchers with unobtrusive, immediate, and non-self-report information about a subject's ongoing behaviors and social milieu over the course of the day (Mehl et al. 2006). Many of these observational methods capitalize on technological innovations and are designed to provide in-depth analyses of personality implications in people's daily lives. For example, an observational ambulatory monitoring method known as the Electronically Activated Recorder (EAR) is a digital audio device that periodically and unobtrusively records snippets of ambient sounds in participants' momentary environments (Mehl et al. 2012). As a naturalistic observation method, the EAR provides an observer's account of daily life and is optimized for the objective assessment of audible aspects of social interactions.

An important direction for future research involves the merging of ambulatory self-report methods with naturalistic observational approaches to facilitate the simultaneous yet methodologically independent examination of inner, experiential and outer, observable aspects of real-world social interactions (Mehl et al. 2012). Such comprehensive research designs will yield rich empirical data that can be used for developing personality theory to test with laboratory experiments and retrospective questionnaires of social interactions.

Conclusion

Social interactions facilitate personality development and person perception, as well as provide a forum for expression of personality. In turn, personality guides people to seek out specific types of social interactions and influences their construal of them. Because they are intertwined

in this way, studying personality and social interactions together will facilitate a deep understanding of both constructs.

Cross-References

- ▶ [Electronically Activated Recorder \(EAR\)](#)
- ▶ [Person Perception and Accuracy](#)
- ▶ [Social Connection Seeking](#)
- ▶ [Social Exchange Theory](#)

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Social Interest

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Synonyms

[Community feeling](#); [Gemeinschaftsgefühl](#); [Social feeling](#)

Introduction

Gemeinschaftsgefühl (social interest) was first penned by Adler in 1908 before he left Freud with one third of the Vienna Psychoanalytic Society members (Adler 1956). Adler asserted that humans are social beings whose aggression drive can be modulated by social interest (Ansbacher 1992; Kaiser 1981). His focus that humans are social beings and the interest of the community began his departure from the aggression drive. There are many translations of *Gemeinschaftsgefühl*, the two most popular include community feeling and social interest; however, both terms are needed to fully describe the concept. This document will use social interest for the translation of *Gemeinschaftsgefühl*. Adler (1933/2012) was aware of the complexity and confusion, “Regarding social interest, you will also have observed certain fluctuations in the Individual Psychology literature. . .” (p. 51).

Social Interest Is Multidimensional

With Adler evolving his understanding of social interest throughout his career, he and his followers emphasized its affective, cognitive, and

behavioral dimensions. In regards to affect, empathy is critical to social interest. Adler (1956) described it by quoting an unnamed English author, “to see with the eye of another, to hear with the ears of another, to feel with the heart of another” (p. 136). Social interest is Adler’s idea that human beings need to emotionally understand and connect with others (La Voy et al. 2014). Crandall highlighted that empathy in social interest is interpreted not only as understanding and caring for others, but also as helping others to grow (Crandall 1981). Adler (1956) continued, “This kind of identification or empathy always depends on the degree of our social interest; it is one aspect of social interest and is absolutely essential to the achievement of social living” (p. 136). Typical of translations of Adler’s speeches, social interest is used in its own definition, leading to some confusion. Adler did not equate empathy with social interest; social interest is more than just empathy but includes thinking.

Another component exists as the cognitive processes. “But it is more than a feeling, it is an evaluative attitude toward life” (Adler 1956, p. 135). Leading translator and Adlerian scholar Heinz Ansbacher highlighted psychological processes stating that social interest is “the *interest* [emphasis added] in the interest of mankind,” (i.e., objects, people, creatures, and the arts, i.e., artifacts of human interests); therefore he underscored “interest” as the vehicle or the psychological process (Ansbacher 1991, p. 43). He argued that Adler conceptualized social interest as a developmental process with the person first needing the aptitude for social living and cooperating with others. Next, this aptitude evolves into the objective abilities of contribution and cooperation with humans as well as the ability to comprehend and show empathy for others. Lastly, social interest moves to a subjective, evaluative attitude determining choices and the interactions the person has with others (Ansbacher 1991).

Ansbacher (1991) asserted one needed to differentiate *Gemeinschaftsgefühl* into community feeling and social interest to understand the

cognitive processes present. He explained that community feeling is a passive process, which indicates an overall innate feeling toward oneself, others, the community, the universe, and the future. Connected to community feeling, social interest existed as an active process that could direct and guide individuals’ behaviors. According to Ansbacher (1991), besides caring for other people, there is a cosmic dimension to social feeling. He further splintered social interest into the objective and the process. The objective aspect refers to the values and mental understanding of the self and external world, while the process aspect includes a movement of the individual developing and improving on the understanding of and behaviors to treat humanity. According to Ansbacher (1991), this process could remain throughout life.

The last category prominent in this construct consists of behavior or the demonstration of social interest. Adler (1956) often described healthy functioning was due to the showing of social interest, “in the fourth type (the socially useful type), prepared for cooperation and contribution, we can always find a certain amount of activity which is used for the benefit of others” (p. 168). Sera (2000) highlighted that Dreikurs, Mosak, and Lazarsfeld emphasized cooperation with others, accepting others as in their own human rights, and developing meaningful relationships both in the world and the cosmic level. The willingness and activity toward the larger world should not have the expectation of reward. Mosak (1991) defined behaviors displaying social interest such as taking risks despite possible negative consequences indicate the courage to face one’s imperfections. In addition, he identified closeness behaviors such as caring for and being cooperative, contributing to others, assisting to solve life problems, and improving the common welfare of the community. Mosak (1991) underscored how people creatively problem solve and make positive choices for their current and future behavior thus exhibiting social interest. This behavior he cautioned needed to be interpreted in the context of the person’s motivation for the behavior.

Given that social interest encompasses affective, cognitive, and behavioral components has generated much debate, consider this inclusive definition by Adlerian Diplomat Richard Watts: “Thus, true *community feeling* (e.g. sense of belonging, empathy, caring, compassion, acceptance of others) results in *social interest* (thoughts and behaviors that contribute to the common good, the good of the whole at both micro- and macro-systemic levels); true social interest is motivated by community feeling” [italics in original text] (2012, p. 43). His focus parallels how later Adler defined and underscored social interest’s intersection with the striving for significance.

Particularly it means *feeling with the whole, sub specie aeternitatis*, under the aspect of eternity. It means striving for a form of community which must be thought of as everlasting as it could be thought of if mankind had reached the goal of perfection. . . . would have to be a goal which signifies the ideal community of mankind, the ultimate fulfillment of evolution [italics in the original text]. (Adler 1933/2012, p. 51)

Adler integrated social interest into his theory of understanding human behavior with the concept of striving for superiority/significance and the individual’s style of life.

The Development of Social Interest and the Striving for Superiority/Significance

To comprehend how social interest is engendered requires understanding how people strive for significance and are part of a social context. Humans are motivated toward growth, improvement, competence, and perfection of themselves; “To live means to develop. . . . *This coercion to carry out a better adaptation can never end*” [italics in original text] (Adler 1933/2012, pp. 49–50). Social interest modulates the striving for perfection in a way that benefits the community. This striving for social interest – this goal – Adler (1956) said must be encouraged.

Social interest is innate, just as the striving for overcoming is innate, with the important difference, however, that social interest must be developed. . . . like the character traits which depend on it, social

interest can come to life only in the social context. By social context, of course, is meant to the child’s subjective understanding of the same. (p. 134)

Adler consistently proclaimed that people’s perceptions of their social context can impact their felt sense of belonging and awareness that their behavior impacts others. Social interest needs to be taught. If not, then the common striving that all humans do will be self-focused. Social interest will vary due to the multidimensionality of how it is displayed and the uniqueness of each person. Adler remained hopeful even in his last published work that future generations will continue to be taught how to be socially interested, “We can assume that the innate substratum of the ability to cooperate will become increasingly stronger through the training of the generations” (Adler 1933/2012, p. 56).

The Life Tasks as Connected to Social Interest

Adler (1956) emphasized the intersection of striving for significance and social interest in the tasks of life (i.e., romantic, social, and work/school domains):

If an individual, in the meaning he gives to life, wishes to make a contribution, and if his emotions are all directed to this goal, he will naturally be bound to bring himself into the best shape. He will begin to equip himself to solve the three problems of life [behavior toward others, occupation, and love] and to develop his abilities. If we are working to ease and enrich our partner’s life, we shall make of ourselves the best that we can. If we think that we must develop personality *in vacuo*, without a goal of contribution, we shall merely make ourselves domineering and unpleasant (p. 113).

Adler alleged that no individual could achieve success without a basic social feeling of his/her community and identified social interest as the basis for accomplishment in social, romantic, and occupational domains. Adler (1956) said the work task is the easiest for people to cooperate in and the love task is the hardest. People may show more socially interested behaviors in different life tasks, thus variations in functioning.

Without social interest, others will experience our striving as selfish and self-serving. When faced with stresses in the tasks of life (love, work, or social), we can develop mental health issues in our striving to overcome these difficulties without displaying social interest (Adler 1956).

Empirical Research About Social Interest

Bass (2000) conducted a meta-analysis of 124 studies that utilized five different social interest focused assessments: Greever et al. (1973) Social Interest Index, Crandall's (1975) Social Interest Scale, Sulliman's (1973) Scale of Social Interest, the Life Style Personality Inventory Social Interest Index originally designed in 1982, and Wheeler et al. (1993) Belonging-Social Interest scale of the Basic Adlerian Scales for Interpersonal Success (Wheeler et al. 1991). She declared the data demonstrated that social interest is multidimensional; it is a complex construct that can be measured in different contexts (i.e., overall level, relationships, life tasks), thus signifying issues with overall construct validity across measures (Bass 2000). However, Bass (2000) did find:

Social interest was positively correlated with self-esteem, altruism, acculturation, religious beliefs, self-efficacy, psychological well-being, femininity, coping resources, volunteerism, affiliation, social concern, life satisfaction, happiness, and sense of humor. . . . Negative correlations were found between social interest and hopelessness, depression, narcissism, external locus of control, anxiety, hostility, substance abuse, abasement, autonomy, dominance, and fear of failure (pp. 32–33).

She summarized that some of the instruments were vulnerable to social desirability and/or demonstrated possible sample errors. She argued that social interest, like Mosak did, should be measured in the context of a person's life style or personality.

Sulliman Scale of Social Interest (SSSI)

In 1973, James Sullivan developed the SSSI to assess a person's social interest in relation to one's present perceptions and beliefs (Curlette et al. 1999). Bass (2000), Bass et al. (2002), and

Mozdzierz et al. (2007) note it contains two subscales that look at both a concern and trust for others, and concern for self and level of optimism present. They also note the SSSI has been found to help with the identification of pathology present or absent among an individual such as anxiety, depression, hostility, insecurity, and self-destructive behavior. According to Stone and Newbauer (2010), the scale evidences good reliability with coefficients in the range of 0.9–0.95 as well as good validity, and is based off a standardization sample of public high school students that were rated by their teachers as the basis for development before being taken by students themselves to test concurrent validity with the final version designed as a self-report (Sulliman 1973).

Social Interest Scale (SIS)

SIS measures the interests that an individual has of others and their welfare based on personality traits/variables consistent with the concept of social interest (Crandall 1975). James Crandall created it in 1975. The scale uses a forced choice format that is either negatively or positively related to social interest based on traits/variables such as hostility, anxiety, altruism, trustworthiness, and religious beliefs (Crandall 1975, 1981; Watkins 1994). Crandall's scale was standardized based on four samples of undergraduate and high school students in psychology courses and was found to evidence good reliability and validity based on studies that have utilized it in research (Watkins 1994).

Cross-References

► [Communion](#)

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Social Interest/Social Feeling

► Adlerian Group Interventions on Workplace Behavior

Social Investment Theory

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Introduction

Social investment theory proposes that personality developments in emerging adulthood occur as a consequence of the adoption of new social roles. These novel adult roles, including spouse, parent, and career person, require different social tools in order to maintain them. Accordingly, agreeableness, conscientiousness, and emotional stability all increase as adaptations to these social roles. The theory does not specifically suggest changes in the other Big Five traits of extraversion or openness to experience.

Definition

Social investment theory proposes that personality developments in emerging adulthood occur as a consequence of the adoption of new social roles.

Evidence

Although it is a relatively new theoretical perspective, there is considerable evidence supportive of social investment theory. These proposed personality changes have been demonstrated in emerging adulthood in a number of cross-sectional and longitudinal studies and across a number of cultures.

The evidence is strongest for emotional stability. In samples of college students, emotional stability increases more than any of the other Big Five traits, despite stressors associated with university study. Moreover, students accurately perceive these increases. Consistent with social investment theory, emotional stability continues to increase until approximately age 40 when, presumably, social roles have become more stable.

Conscientiousness also increases in emerging adulthood, although the changes are smaller and perhaps later in onset than for emotional stability. College students show increased conscientiousness between enrollment and graduation. Further, meta-analysis has revealed significant increases between the ages of 22 and 30 years old, although not between the ages of 10 and 18 or 18 and 22.

Some evidence points to increases in agreeableness during the college years, although these changes are smaller than those for emotional stability or conscientiousness. Moreover, a large-scale meta-analysis suggests that these changes may not emerge until later in adulthood (i.e., between 50 and 60 years old).

Overall, there is considerable evidence for social investment theory and particularly for its predictions regarding emotional stability and conscientiousness. Although less clear, there is evidence for its predictions regarding agreeableness.

Fit with Other Personality Theories

One of the notable strengths of social investment theory is its ability to work alongside other psychological theories of personality and social development, and it provides additional support for the concept of emerging adulthood as a unique developmental life phase. Although it focuses on how agreeableness, conscientiousness, and emotional stability increase due to specific new social roles, it does not preclude other personality changes. Additionally, it does not claim that changes to these or other personality variables are limited in any way during earlier or later life phases, such as adolescence or in later adulthood.

Whereas the theory does claim that social role adoption is a cause of these personality changes during emerging adulthood, it does not rule out the important influence of genetics on personality development. Instead, social investment theorists argue that genetic influence and social adaptation must go hand in hand to facilitate these changes.

Social investment theory's multifactor presentation of personality development allows it to work alongside most other theories of personality evolution. The one notable exception is the complete genetic predetermination proposed by some Five Factor theorists. However, social investment theory still allows for genetic influence on personality change in emerging adults, therefore not disagreeing with the five-factor theory in its entirety. In fact, much of the research conducted on social investment theory is completed within the bounds of the five standard personality variables presented by five-factor theory.

Conclusion

Social investment theory has contributed to the understanding of personality change across the lifespan. More specifically, it has identified the influence of new social roles common to emerging adulthood as a driving force in personality change. Considerable evidence has suggested that personality does change in theoretically predicted directions during emerging adulthood and the years after this life stage.

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Social Isolation

- ▶ [Loneliness](#)

Social Leadership

- ▶ [Political Leadership](#)

Social Learning

- ▶ [Observational Learning](#)

Social Learning Theory

- ▶ [Self-Efficacy Theory](#)

Social Liberalism

- ▶ [Liberalism](#)

Social Mammals

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Synonyms

[Individual differences](#); [Social factors](#); [Temperament](#)

Definition

The examination of the relationship between social factors and animal personality.

Introduction

Research on animal personality has blossomed over the past few decades with a variety of species being studied. While the genesis of animal personality is debatable, many would agree that social factors play a role. Therefore, social mammals make especially good subjects for personality research as they are presented with many opportunities for individual variation within contexts such as mate choice, parenting style, competition, and cooperation. Additionally, a given personality trait can be adaptive to the presenting individual, the entire social group, or both. For instance, the trait of boldness can lead to an increase in mating success for the presenting individual (e.g., Godin and Dugatkin 1996; Nettle 2006), whereas an especially creative individual may develop a novel solution to a problem from which other group members can also benefit (Matsuzawa 2003). Overall, personality traits and social factors seem to be closely related. This chapter will highlight the relationship between animal personality and social factors in three widely studied social mammals: chimpanzees, dolphins, and elephants.

Chimpanzees

Chimpanzees (*Pan troglodytes*) live in fission-fusion societies in which the composition of the social group changes for different situations (Nishida 1968). For example, females will change membership from one group to another when seeking mates. Adult males will often forage alone or form a small hunting party. Male chimpanzees (and females to an extent) present a dominance hierarchy with one individual as the alpha and the rest falling in a fairly linear fashion (Noe et al. 1980). Short- and long-term alliances are often maintained with food sharing and grooming behaviors. Consequently, chimpanzee communities are dynamic and provide many opportunities for individual differences to present themselves. For example, researchers studying wild chimpanzees observed an adult male repeatedly using a probe to open up his blocked nasal passages (Nishida and Nakamura 1993). The researchers noted that it was curious that no other chimpanzees were observed exhibiting this behavior and suggested that sticking an external object into such a delicate place may be considered to be too bold for the other members (Nishida 2003). Another creative solution was seen when an alpha male exhibited a novel behavior where he wiped his mouth with leaves and branches while eating juicy lemons (Nishida 2003). This leaf napkin behavior then appeared to spread to at least nine other chimpanzees in the group. In this case, the creative individual provided a new strategy for the group. These observations support the idea that personality traits can be adaptive in animal societies.

More formal investigations of chimpanzee personality have also been made. One of the first examinations of chimpanzee personality had human raters assess wild chimpanzees on 45 paired-word traits (Buirski et al. 1978). The ratings revealed consistent, reliable patterns in personality for both male and female chimpanzees across multiple raters. Additionally, personality seemed to be related to the dominance ranking of individuals, with more dominant animals demonstrating more aggressive personalities and less dominant animals demonstrating more timid

personalities. These early findings may suggest that personality factors can serve a role in various chimpanzee social interactions as well as influence aspects of group living in a socially cohesive species.

While much research has been conducted since to refine and further disseminate the presence of chimpanzee personality and its parallels to human personality (e.g., King and Figueredo 1997), there are several key studies which examine the implications of personality on components of chimpanzee social behavior and their role in a chimpanzee society. For example, Koski (2011) investigated how social networks influence variation in personality expression in chimpanzees. Personality was measured for 75 captive chimpanzees across three zoos that exhibited high repeatability on several social behaviors. All repeatable behaviors were then analyzed with factor analysis, which resulted in five emergent personality traits specifically oriented toward social components of chimpanzee behavior: sociability, positive affect, equitability, anxiety, and activity. Chimpanzees exhibited variation in trait expression between zoos, emphasizing the importance of accounting for a variety of external forces that influence personality in social and nonsocial contexts. Moving forward, it would be valuable to examine if certain socially organized chimpanzee personality traits led to higher evolutionary fitness. For example, in humans there is a correlation between high levels of extraversion and likelihood of having children (Jokela et al. 2009) and size of social networks (Swickert et al. 2002). Studies of this nature with chimpanzees would allow for evolutionary comparisons of how personality and social factors influence each other.

Another social factor in which personality can play a role is friendship. For instance, human children have friends with whom they share significant similarities in temperament, and these similarities precede the formation of such friendships (Dunn and Cutting 1999; Rubin et al. 1994). Massen and Koski (2014) similarly assessed the role of personality in chimpanzee friendships. Results indicated friends were significantly more similar on personality factors sociability and boldness when compared to dyads of non-friends.

However, it has yet to be determined whether chimpanzees choose friends based upon having similar personalities or if the similar personalities develop by chance. Chimpanzee dyads with similarities in boldness and sociability may be adaptive due to their function in cooperative situations among unrelated individuals. Further research is needed to assess the role and development of personality in chimpanzees and what function such individual differences serve in other social roles that exist for chimpanzees.

Dolphins

Much like chimpanzees, bottlenose dolphins (*Tursiops truncatus*) possess a broad and diverse behavioral repertoire, providing ample opportunity for individual differences. They also exhibit a fission-fusion social structure and engage in numerous social associations and interactions, which include mating alliances, group foraging, pair bonds, and alloparental relationships (Shane et al. 1986). The type of associations and relationships an individual engages in could be indicative of their individual personality.

For example, dolphins have been observed around the world engaging in a variety of feeding strategies such as schooling prey, searching the sand for prey, or even beaching themselves to obtain fish (Mann et al. 2000). In particular, observations were made of two groups of bottlenose dolphins near the coast of Florida that used a specialized cooperative technique to acquire fish which involved one animal using fluke slaps to herd or drive fish toward the other members of the group. It was determined that the identity of the driver in each group remained the same during each fishing bout (Gazda et al. 2005). Although it is unclear why these individuals developed this specialized role, personality may be a factor.

There is also evidence of individual differences from studies of maternal care and infant behaviors in dolphins. For example, Hill et al. (2007) found that dolphin mothers demonstrate consistent individual differences in parenting styles. The most apparent difference was the mothers' use of discipline in controlling and herding their calf. Parental

care is costly, and individual differences in maternal care patterns may have important evolutionary implications. Individual differences have also been observed in studies of the early social development of wild bottlenose dolphins (Gibson and Mann 2008). Wild-born calves differed in terms of their independence and time spent near their mom, which could be an early indicator of the bold-shy continuum (Mann 1997).

The first empirical evidence of personality in bottlenose dolphins was by Highfill and Kuczaj (2007). Human ratings of dolphin personality were examined before and after drastic changes to the subjects' physical and social environments due to Hurricane Katrina. It was found that the personality traits of 12 of the 15 dolphins remained consistent from assessment 1 to assessment 2. Kuczaj et al. (2012) investigated the importance of context and temporal stability in personality characteristics by assessing specific traits across three contexts (interactions with the physical world, interactions with other dolphins, and interactions with humans). Four of the subjects were stable in all traits across all contexts, while the remaining 16 dolphins' ratings were variable across contexts, supporting the notion that context affects personality expression and should be accounted for in future assessments.

Personality in social contexts in particular has been thought to serve a function in different social roles, such as dolphin hierarchy social rank. In a recent assessment, Frick (2016) examined the relationship between personality and rank within the dominance hierarchy for a semi-captive and socially housed group of 24 bottlenose dolphins. Scores for all personality factors were correlated to each dolphin's ranked position for both the males and females. The results suggest that a relationship between personality and an individual's social status is present, yet complex. For example, the most dominant male may not necessarily be the most aggressive or most bold animal. Individuals ranked at both extremes of the hierarchy (highest and lowest) appear to exhibit a more correlative relationship between personality and social status. However, other factors appear to influence and vary this relationship for

middle-ranked dolphins. For example, the calves of a dominant female dolphin who exhibit a cosseting maternal style affect both how her calves behaviorally develop and how others (including more dominant animals) behave toward them. Thus, these results suggest that factors such as age, strength of associations between individuals, maternal style, and interactions between male and female hierarchies all influence how personality is expressed in different contexts.

Elephants

Asian (*Elephas maximus*), African savannah (*Loxodonta africana*), and African forest (*L. cyclotis*) elephant species exhibit complex social structures that differ between the sexes. Adult males travel alone or in bachelor herds, only interacting with the female groups for reproduction. Adult females and calves live in societies based on matrilineal groups that persist for several generations. Elephant societies are characterized by a high degree of social facilitation, observed through alloparenting, cooperation among adults, helping behaviors, and an interest in ailing individuals (Schulte 2000).

In particular, the variety of behavioral responses exhibited in response to a change in the social group, such as the death of a matriarch, suggests that elephants may display a wide range of individual differences in terms of behavior, personality, and temperament. Such individual differences may serve an important role in the formation and maintenance of elephant social hierarchies. Freeman et al. (2004) found that for both Asian and African elephants, dominance status was positively correlated with surveys of temperament (score range included most submissive to aggressive). Studies by Lee (2011) and Lee and Moss (2012) were the first to explicitly investigate personality traits within the same familial group of wild African elephants. Ratings of 28 adjectives on 11 female elephants found individual differences present on factors leadership, playfulness, gentleness, and constancy. Scores for leadership were positively correlated to social rank, with the

suggestion that leadership illustrates the respect accorded to individuals as a function of their problem-solving ability.

Highfill et al. (2013) assessed the stability of personality traits after a significant social disruption, the death of the matriarch. Personality ratings were collected twice, with the second collection approximately 28 months later, during which time the matriarch has passed away. Despite this disruption to the social group, all remaining elephants exhibited stable personality factors. Horback et al. (2013) also found individual differences in personality in elephants from utilizing both ratings and coding methodologies. All of the traits for each elephant were found to be temporally stable, which suggests that human raters with extensive knowledge of the subjects' behavioral repertoire can provide a valid description of personality, which could be utilized in future assessments of social factors.

Conclusion

This chapter highlighted three well-studied social mammal species, but the connection between social behaviors and personality can be observed in many other species. For other social species of primates, such as rhesus macaques (*Macaca mulatta*), there is research that parallels the role of personality in various aspects of social behavior, including friendship (Weinstein and Capitanio 2008, 2012). Personality and temperament are extensively studied in canines (for review, see Jones and Gosling 2005) with preliminary links to social contexts. For example, wolf (*Canis lupus*) leadership behaviors are related to dominance and breeding status (Peterson et al. 2002). In another example, sheep (*Ovis aries*) that are considered more "bold" are more likely to split the foraging group into smaller subgroups to decrease intergroup competition for resources (Michelena et al. 2009). These examples further support the need for increased research into the role of personality in social mammals. It is only recently that more attention is being paid to the relationship between the presentation of a personality trait and its relevance in a social context (e.g.,

Coleman and Wilson 1998; Dingemanse and De Goede 2004). As our understanding of social mammals increases, research detailing the role of personality in social contexts will become important for our understanding of the variation present for a behaviors' communicative purpose and function.

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Social Monitoring System

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Synonyms

[Interpersonal sensitivity](#); [Need to belong](#); [Social skills](#)

Definition

The social monitoring system regulates social inclusion by increasing an individual’s awareness

of social cues and identifying the interpersonal intentions of others. The system activates when an individual’s need to belong is unfulfilled.

The Social Monitoring System

Humans demonstrate a strong desire for social connectedness and a need to belong to social groups. Belongingness plays a central role in promoting positive well-being, such that when individuals feel socially rejected, they can experience both physical and psychological pain. Individuals thus have a vested interest in maintaining a sense of belongingness and avoiding social rejection, and this vested interest is reflected in need to belong (Gardner et al. 2005).

To avoid rejection and exclusion, individuals are motivated to monitor and regulate their levels of social inclusion. By encoding cues related to social acceptance and social threat, the social monitoring system helps ensure positive interactions between the self and others when one’s need to belong is unsatisfied. Thus, the social monitoring system helps individuals achieve a sense of belongingness. To maintain social inclusion, individuals monitor their social relationships; when individuals have a sufficiently high level of belongingness, there is no need for further monitoring. However, when individuals have an unsatisfactory level of belongingness, the social monitoring system is engaged to provide cues for further inclusion (Gardner et al. 2005). Attention to interpersonal signals such as vocal tone and facial expressions is heightened when the social monitoring system is activated, resulting in more accuracy encoding and processing information conveyed by these signals. For example, individuals higher in belongingness needs have heightened interpersonal sensitivity and can more accurately decode verbal and nonverbal social cues (Pickett et al. 2004). Such sensitivity enables individuals to better monitor and regulate their levels of social inclusion, and to recognize impending social rejection.

When the social monitoring system is active, attention becomes dedicated toward encoding and processing socially relevant information to

achieve success in interpersonal interactions. For example, individuals recall more social memories after a rejection experience than after an acceptance experience (Gardner et al. 2005). The social monitoring system can then guide the processing of information toward facilitating inclusion and social interaction, as well as avoiding potential rejections. Despite being activated under threats of social exclusion, the social monitoring system and need for belonging are conceptually distinct. Unlike belongingness needs which are subject to constant regulation and attention, the social monitoring system is only active when an individual's needs are not met.

Social monitoring is commonly examined by either manipulating or measuring need to belong. Common paradigms for manipulating need to belong include the use of social exclusion tasks (such as playing a purported group activity from which the participant is excluded) or recalling a past experience when one was socially rejected (e.g., Pickett et al. 2004; Gardner et al. 2000). Individual differences are typically assessed using the Need to Belong scale (Leary et al. 2013). Social monitoring outcomes, or the accuracy and efficiency of coding or interpreting various social cues, are typically assessed through measures such as vocal tone recognition (recognizing positive or negative tones in voices), vocal emotional Stroop tasks (recognizing word valence in positively/negatively valenced words paired with positive/negative tones), emotion recognition, and emotional perspective taking tasks (inferring facial expressions that would fit a situation; e.g., Pickett et al. 2004; Gardner et al. 2005).

Chronic and Situational Factors

Both situational and chronic belongingness deficits have been tied to engagement of the social monitoring system (Pickett et al. 2004). Individuals can display different levels of social monitoring depending on biological factors. For example, research has found increased attention to social stimuli and heightened accuracy in decoding others' facial expressions among women in the luteal phase of menstruation, a period associated with increased levels of progesterone (Maner and

Miller 2014). Other research has similarly found a relationship between progesterone and emotion recognition accuracy among women in the luteal phase (Derntl et al. 2013). Thus, women's sensitivity to social information is guided by changes in progesterone levels associated with reproductive success.

Research has also examined the relationship between social monitoring and loneliness, which has been conceptualized as a chronic deficit in need to belong. Lonely individuals have been found to display social deficits, but whether this is due to impairment of attention in general or decoding of social cues in particular is contestable. Though some research has found that loneliness is related to increased social monitoring, findings have been mixed as to whether this increased social monitoring predicts differences in accuracy of information processing (Gardner et al. 2005; Lodder et al. 2016). For instance, one set of studies found that social monitoring does *not* enhance or impair lonely individuals' (identified by the UCLA Loneliness Scale; Russell 1996) capacity to recognize emotions (Lodder et al. 2016). However, other research has found that lonely individuals, operationalized as individuals who report fewer good friends, show enhanced social monitoring across various information domains. This enhanced monitoring may indicate that lonely people have the capacity for social sensitivity but lack the skills to implement an appropriate response (Pickett and Gardner 2005). Knowles et al. (2015) similarly suggest that lonely individuals demonstrate enhanced performance on social monitoring tasks as long as the task is not framed as a test of social skills, thus reflecting an inability among lonely individuals to process socially relevant information when under stress.

Although research suggests that the social monitoring system functions to promote positive social interaction through increased attention and accuracy to interpersonally relevant information, other studies have suggested that the relationship between attention to and accurate recognition of information may not be consistent across all situations. This may particularly be the case when individuals are required to decode complex or

integrated cues (Pickett and Gardner 2005). For example, integrating information on both vocal tone and facial expression into a single response may inhibit accuracy compared to processing each cue separately. This relationship between accuracy and attention may also change depending on whether belongingness needs are chronic or situational (Pickett and Gardner 2005). Research on loneliness and social monitoring has found mixed results for whether loneliness heightens the processing of social information (Lodder et al. 2016). Such research has found that lonely individuals do not demonstrate heightened emotion recognition in laboratory studies, though they may demonstrate heightened attention to social cues in the real world. Further research may be required to understand how attention to cues and accuracy deciphering those cues are influenced by the various situational and chronic factors discussed here.

Other Social Strategies

Use of the social monitoring system has also been linked to other social strategies such as conformity to group norms, ingratiation, and impression management (Gardner et al. 2005). These strategies can capitalize on the enhanced attention to social cues associated with the social monitoring system. Conformity, for example, requires accurately identifying group norms and expectations with which to act in accordance. When the social monitoring system is activated, a person may be able to more quickly and accurately identify norms through associated social behaviors. Likewise, ingratiation necessitates an accurate understanding of one's interaction partner, which social monitoring would presumably heighten by dedicating attention to cues related to emotion and expectation recognition.

Summary

The social monitoring system serves to assist in interpersonal interactions by facilitating awareness of social cues and interpreting social

information. Given the mixed results surrounding attention versus accuracy of decoding information, further research could determine under what conditions the relationship between attention to and accurate interpretation of social cues is more versus less pronounced. Research on the contributions of the social monitoring system to other social strategies, such as mimicry or cooperation, may also provide insight into how the social monitoring system regulates belongingness needs.

Cross-References

► Social Intelligence

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Social Motives

► Social Incentives

Social Occupational Types

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Synonyms

Careers; Interests; Occupational types; Vocations

Definition

A category of occupations from Holland's (1973) RIASEC (realistic, investigative, artistic, social, enterprising, and conventional) model of vocational interests that involve the serving of others and social interaction

Social Vocational Interests

Holland (1973) described individuals with the social occupational interest type as having a preference for occupations and activities that involve

interaction with other people (e.g., teaching, tour guide, and human relations). These individuals have a tendency to avoid ordered, systematic activities that involve the use of materials, tools, and machinery (i.e., realistic occupations). Social individuals value cultivating the welfare of others and see themselves as empathetic, patient, and interpersonally gifted. Social people report a lack of interest in mechanical fields. People of this type are often described as helpful, idealistic, sociable, feminine, agreeable, idealistic, and persuasive. An ideal environment for this type is one that requires interpersonal skills and the ability to mentor, treat, heal, or teach others (Holland 1996). A social environment demands empathy, selflessness, and sociability.

The location of the social type on Holland's hexagonal typology is adjacent to the artistic and enterprising types and opposite of the realistic type. This indicates that out of Holland's six types, the social type is most closely associated with the enterprising and artistic types and least associated with the realistic type. According to Prediger's (1982) two-dimensional conceptualization of Holland's hexagon (People vs. Things, Data vs. Ideas), the social type is located at the People end of the Things-People axis. In other words, a social individual prefers occupations that require the interaction with other people rather than objects.

Correlations with Personality and Individual Differences

The study of vocational interests in relation to the Five Factor model has received a great deal of attention from personality researchers in the past few decades. Using a meta-analysis, Barrick et al. (2003) found small positive correlations between social interests and agreeableness ($r = .15$) and openness to experience ($r = .12$) and moderate relationships between social interests and extraversion ($r = .29$). Specifically, research has found that social interests are correlated with the facets of agreeableness of trust ($r = .30$), morality ($r = .23$), altruism ($r = .49$), cooperation ($r = .24$), and sympathy ($r = .42$), as well the

facets of conscientiousness of achievement striving ($r = .19$), and dutifulness ($r = .19$; see also Armstrong and Anthony 2009). Social interests were also related to the facets of extraversion of gregariousness ($r = .26$), friendliness ($r = .32$), assertiveness ($r = .19$), activity level ($r = .14$), and cheerfulness ($r = .33$) and the facets of openness of imagination ($r = .12$), artistic interests ($r = .36$), and emotionality ($r = .37$).

Sex Differences

Sex differences are consistently found in vocational interest research. Using meta-analytic methods, Su et al. (2009) found the greatest mean effect size ($d = .90$) regarding sex differences is for Prediger's Things-People dimension with women preferring occupations that dealt with people (e.g., social occupations) and men preferring occupations that dealt with things. A significant effect size was also found for the social type ($d = -.68$) favoring women.

Conclusion

Individuals with a social vocational interest profile tend to be female, are agreeable, open to experience, cheerful, and value both interacting and helping others. Career areas would include jobs which deal with the public, such as counselors, help desk employees, and areas such as social work.

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Social Pain/Hurt

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Synonyms

[Psychological pain](#)

Definition

The unpleasant experience that is associated with actual or potential damage to one's sense of social connection or social value (Eisenberger 2012)

Introduction

When individuals are asked to identify their most painful experience, they often pick negative social experiences, such as the loss of a loved one or a painful relationship breakup, rather than physically painful experiences. In fact, individuals tend to label such negative social experiences as "painful" or "hurtful," drawing a linguistic parallel between physical pain and social pain, the painful feelings that follow from rejection or loss. Indeed, due to the importance of social connection for human survival, it has been hypothesized that, over the course of evolutionary history, the physical pain system, which alerts us to threats

to physical safety, may have been co-opted to monitor for threats to social safety. Specifically, given the immaturity of most mammalian infants at birth, connection to a caregiver is essential for critical survival needs, such as obtaining nourishment and securing protection. Thus, to the extent that being separated from a caregiver is a major threat to survival, feeling “hurt” by this separation may be an adaptive way to prevent social separation. Consistent with this idea, research over the past decade has suggested that physical and social pain may rely on shared neural substrates. A neural overlap between physical and social threats offers an explanation for why negative social experiences are reported as being so distressing, as well as why this increased sensitivity to social threats may be adaptive and necessary.

Evidence for a Physical-Social Pain Overlap

To the extent that social pain processes co-opted aspects of the physical pain system, experiences of social pain should rely on neural regions associated with pain processing. Along these lines, the neural circuitry underlying physical pain is typically decomposed into two components: the sensory component and the affective component (reviewed in Treede et al. 1999). The sensory component processes information about the physical aspects of pain stimuli, such as the quality, the location, and the intensity of the stimuli. This information is primarily processed within the primary and second somatosensory cortex as well as the posterior insula. In contrast, the affective component of physical pain refers to the unpleasantness or emotional distress associated with the painful stimuli as well as the motivation to terminate the stimuli causing the distress. The affective component has been more strongly associated with activation in the dorsal anterior cingulate cortex (dACC) and the anterior insula (AI). Experimentally, affective and sensory processes occur simultaneously in the presence of physical pain; however, evidence suggests these two processing

streams are indeed distinct. Hence, chronic pain patients who have undergone a surgical procedure that lesions the dACC (cingulotomy) show intact processing of sensory information (e.g., they recognize the physical sensation) but exhibit impaired affective processing (e.g., it no longer bothers them) (Foltz and White 1962). Social pain is often accompanied by distress in the absence of any physical stimulus. Thus, the affective component of the pain system is likely most involved in terms of social pain processing.

In line with this, activation in the areas associated with the affective component of pain (dACC and AI) tends to occur during episodes of social rejection (Eisenberger et al. 2003), negative social evaluation (Eisenberger et al. 2011), and even while remembering a deceased loved one (Gündel et al. 2003). Additionally, increased neural activity in these regions is also associated with increased self-reported feelings of social distress during such events (Eisenberger et al. 2003). Finally, specific traits associated with increased sensitivity to social rejection (e.g., low self-esteem, anxious attachment style, interpersonal sensitivity) are associated with increased activity in the dACC and AI in response to social exclusion, whereas traits associated with reduced sensitivity to rejection (e.g., avoidant attachment style, greater perceived social support) are associated with reduced activity in the dACC and AI in response to social exclusion (see Eisenberger 2012 for review). This evidence suggests that both the physical pain and social pain alarm systems may overlap, relying on shared neural circuitry.

Two implications stem from the probable integration of social pain into the physical pain alarm system: (1) sensitivities to one type of pain should extend to the other type of pain, and (2) factors known to enhance or reduce one type of pain should influence the other type in similar ways. In line with the former, individuals who are dispositionally sensitive to one type of pain are also more sensitive to the other type as well. For instance, healthy individuals who report higher levels of pain in response to experimental physical pain manipulations (e.g., painful heat stimuli) also

report more social pain in response to experimental social exclusion (Eisenberger et al. 2006). Additionally, those high in rejection sensitivity or those who have insecure attachment styles (features likely to be associated with sensitivity to social pain) report more physical pain symptoms (Waldinger et al. 2006). Such research supports the idea that individuals tend to exhibit shared sensitivities to social and physical pain, presumably due, in part, to their shared neural circuitry.

Research has also supported the second implication that factors that influence one type of pain should similarly influence the other type of pain. For instance, factors that typically reduce social pain, like social support, can also reduce self-reported physical pain (Master et al. 2009). Likewise, drugs that reduce physical pain, such as acetaminophen (Tylenol), have also been shown to reduce daily reports of social pain as well as pain-related neural activity to social exclusion (DeWall et al. 2010). Together, this evidence supports the hypothesis that physical and social pain rely on shared neural circuitry.

Conclusion

The observed neural overlap between physical and social pain makes it clear why threats to social ties are often described as being “painful” or “hurtful.” Moreover, this physical-social pain overlap may also help to understand why emotional traumatic experiences in early life are often associated with downstream health consequences (e.g., chronic pain, depression), as well as later interpersonal difficulties. Recognition of these consequences can encourage acknowledgment of negative social experiences as truly painful and as such should not be dismissed. While most findings in this area emphasize the role of the affective component of pain in the neural processing of social experience, there is debate about whether and how the sensory component may also overlap. Some studies have shown activation in the somatosensory cortex during recollections of socially painful experiences (e.g., romantic breakup) (see Eisenberger 2012 for review).

Future work will be needed to determine whether physical and social pain overlap in both the sensory and affective components of pain.

Cross-References

- ▶ [Need to Belong](#)
- ▶ [Rejection](#)

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Social Perception

- ▶ [Social Information Processing](#)

Social Potency

- ▶ [Fearlessness](#)

Social Psychology

- ▶ [Symbolic Interactionism](#)

Social Ranking

- ▶ [Social Hierarchies](#)

social Rejection

- ▶ [Ostracism](#)

Social Relations Model

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Definition

In interpersonal situations, people are perceivers and actors and also targets of others' perceptions and actions. The social relations model (SRM; Kenny 1994; Kenny and La Voie 1984) is a conceptual and statistical approach for understanding

and analyzing perceptions and actions (such as trusting, desiring, helping, or hurting) that occur between pairs of individuals (or *dyads*).

Introduction

Understanding interpersonal perception and action can present challenging puzzles. For example, consider a team comprised of four individuals: A, B, C, and D. If A is very trusting of B, then is that an effect of the group (in this group, everyone trusts everyone), the individual perceiver (A is an especially trusting group member), the individual target (B is an especially trustworthy group member), or the dyadic relationship (A is uniquely trusting of B in particular)? The SRM can separate and estimate the contributions of these various pieces of the puzzle. Estimating group effects requires collecting data from multiple groups, and disentangling perceiver, target, and relationship effects requires having multiple perceivers rate multiple targets (or multiple actors interact with multiple partners) within groups. Therefore, SRM studies often use *round-robin designs* in which each group member describes or interacts with every other group member. SRM studies can also employ *block designs* in which groups are divided into subgroups and each subgroup only describes or interacts with members of other subgroups.

Note that if the dyadic phenomena under consideration are perceptions – as is the case in the “trust” example used here – then the individuals involved are typically referred to as *perceiver* and *target*. However, if the dyadic phenomena under consideration are actions (e.g., helping), then the individuals involved are typically referred to as *actor* and *partner*.

Social Relations Model Components

As noted above, one potential contributor to interpersonal perception and action are group-level effects; that is, the average (or *norm* or *base rate*) for a particular perception or action may be different in different groups. For example, some

groups may be generally more trusting than other groups. Even if there is no significant variation between groups, there is likely to be significant variation within groups. The SRM separates within-group individual differences into differences between perceivers and differences between targets.

The perceiver (or actor) effect reflects how someone perceives targets (or treats partners) *on average*. Thus, it reflects a perceiver's consistent disposition to perceive others in a particular way (e.g., to be generally wary of others). For example, if A is more trusting than the typical team member, then A's perceiver effect for trust would be positive (which could partially explain A's tendency to trust B). Variation in group members' perceiver effects is *perceiver variance*. Significant perceiver variance indicates that different perceivers have different perceptual dispositions. For example, if A and B trust all of their teammates while C and D mistrust all of their teammates, then perceiver variance is high; however, if A, B, C, and D are all equally trusting of their teammates, then perceiver variance is low. When measuring interpersonal perception, perceiver variance may be called *assimilation* because it indicates the degree to which each perceiver assimilates targets into their own distinctive schema (e.g., B believing "they're all trustworthy" and C believing "they're all untrustworthy").

The target (or partner) effect reflects how someone is perceived (or treated) *on average* by all perceivers (or actors). Thus, it reflects a target's consistent disposition to be perceived in a particular way (e.g., to be generally trusted by others). For example, if B is more trusted than the typical team member, then B's target effect for trust would be positive (which could partially explain A's tendency to trust B). Variation in group members' target effects is *target variance*. Significant target variance indicates that some targets are consensually perceived as above average or are consensually perceived as below average on the characteristic in question. For example, if everyone on the team perceives A and B as trustworthy and C and D as untrustworthy, then target variance is high;

however, if each group member is trusted by some teammates but not trusted by others, then target variance is low. When measuring interpersonal perception, target variance may be called *consensus* because it indicates the degree to which different perceivers share similar perceptions regarding who is above average and who is below average.

The dyadic relationship effect reflects a perceiver's unique perception of (or action toward) a target that cannot be explained by the perceiver's perceiver effect, the target's target effect, or the group mean. For example, if A trusts B more than would be expected given A's general tendency to be trusting, B's general tendency to be trusted, and the overall level of trust in the group, then A's trust of B shows a positive relationship effect (which could partially explain A's overall tendency to trust B). Variation in group members' relationship effects is *relationship variance*. Significant relationship variance indicates that perceptions or actions are to some degree unique to each unique dyad. For example, relationship variance for trust will be greater to the degree that a specific group member's trust of another specific member cannot be predicted from those members' respective perceiver and target effects.

The final SRM component is random measurement error. If a dyadic variable is only measured once, then relationship variance cannot be separated from error variance. For example, if on one measurement occasion A seems uniquely trusting of B, then that could reflect random error. Separating reliable, systematic relationship variance from unreliable, unsystematic error variance requires more than one measurement of the dyadic variable (e.g., measuring how much members trust each other during several different team meetings or using several different trust scales).

The SRM encompasses both the conceptual approach described above and the analytical procedures and formulas used to compute the proportion of variance in interpersonal perception or action that can be attributed to the perceiver, the target, and the unique dyadic relationship or error (Kenny et al. 2006). There are freely available

programs specifically designed to estimate SRM effects and variances (such as SOREMO, BLOCKO, TripleR, and fSRM); however, conventional statistical programs that can fit multi-level or structural equation models can also be coaxed into estimating these SRM parameters. If there is significant perceiver, target, and/or dyadic variance, then researchers can examine whether that variance is associated with other SRM and non-SRM variables (Back and Kenny 2010).

First, researchers can compute correlations between the SRM components of one particular variable (e.g., trust). The correlation between individuals' perceiver effects and target effects is *generalized reciprocity*. Generalized reciprocity indicates if how people generally perceive (or treat) others correlates with how others generally perceive (or treat) them. For example, if A and B are generally trusting of and trusted by others, while C and D are generally mistrustful of and mistrusted by others, then there would be positive generalized reciprocity for trust. The correlation between dyad members' relationship effects is *dyadic reciprocity*. For example, a positive dyadic reciprocity coefficient for trust suggests that if A is uniquely trusting of B and wary of C, then it is likely that B is uniquely trusting and C is unusually wary of A.

Second, researchers can compute correlations between the SRM components of two different dyadic variables (e.g., trust and helping). At the level of individuals, four types of correlations can be computed between perceiver/actor and target/partner effects: a perceiver–perceiver correlation (e.g., are trusting people more helpful?), a perceiver–target correlation (e.g., are helpful people trusted more?), a target–perceiver correlation (e.g., are trusting people helped more?), and a target–target correlation (e.g., are more trusted people helped more?). At the level of dyads, two types of correlations can be computed between the relationship effects: an *intraindividual* relationship correlation (e.g., is A uniquely trusting B related to A uniquely helping B?) and an *interindividual* relationship correlation (e.g., is A uniquely trusting B related to B uniquely helping A?).

Third, researchers can test associations between SRM variables and non-dyadic variables (such as individual or situational characteristics). For example, researchers could test if age predicts perceiver or target effects. Assessing self-perceptions of the characteristic measured in an SRM study enables researchers to compute (a) *assumed similarity* correlations between self-perceptions and perceiver effects (e.g., do people who believe they are relatively trustworthy also believe others are relatively trustworthy?) and (b) *self-other agreement* correlations between self-perceptions and target effects (e.g., are people who believe they are relatively trustworthy perceived as relatively trustworthy by others?). And assessing perceptions of others' perceptions of the self (or *meta-perceptions*) enables researchers to compute *meta-accuracy* correlations between meta-perceptions and target effects (e.g., are people who think they are perceived as relatively trustworthy actually perceived as relatively trustworthy?).

Conclusion

Although conducting and analyzing SRM studies can be challenging, by systematically separating and juxtaposing pieces of the puzzle of interpersonal perception and action, the social relations model can ask and answer questions that other conceptual and statistical approaches cannot (Back and Kenny 2010).

Cross-References

- ▶ [Actor-Partner Interdependence Model](#)
- ▶ [Person Perception and Accuracy](#)

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Social Relationships

- ▶ [Received Support](#)

Social Reticence

- ▶ [Shyness](#)

Social Rewards

- ▶ [Social Incentives](#)

Social Role Losses

- ▶ [Negative Events](#)

Social Roles

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Synonyms

[Role expectations](#); [Role performance](#)

As Toshiko waits for her first Improv class to begin, she begins to worry. She has never acted

before; how will she know what to do? before she can give it another thought, the instructor starts assigning students to act out a scene about a police investigation of a bank robbery. Toshiko gets the role of police officer. Despite her initial nerves, she easily slides into character – she stands up tall, puffs out her chest, scrunches her brow into a stern shape, and clenches her jaw. She marches confidently toward the bank teller and asks her to describe the suspect, then goes out searching for the burglar. She spots him, chases him down, and after a brief altercation, handcuffs him. The scene ends and the instructor praises Toshiko – impressed that she was so easily able to convey the stern, authoritative personality of a police officer.

Why was it so easy for Toshiko to play the role of the police officer? Perhaps because she has seen so many social and cultural representations of police officers on television and in the news, or perhaps because she has interacted with a few police officers in her own life. It was easy for her to play this role because she is familiar with the kinds of behaviors, personality characteristics, and responsibilities that are expected of a police officer. She is familiar with the *social role* of a police officer.

Definition

A *social role* is a set of social expectations, standards, or norms that guide behavior within a particular situation, relationship, or position within the broader social structure (Stets and Burke 2003). People have many social roles, each with a different set of expectations. For example, Toshiko may start her day in a managerial role at a tech start-up, at lunch she may go for a run with her running group, and after work she may take care of her grandmother. As a manager, Toshiko's employees expect her to be decisive and dominant; as a runner, her running friends expect her to be energetic and speedy; and as a caregiver, her grandmother expects her to be kind and attentive. Successfully conforming to role

expectations leads to approval from others whereas an inability or unwillingness to conform to role expectations can lead to disapproval or even punishment from others. Thus, people tend to internalize their role expectations and use them to guide their own behavior as well as to anticipate the behavior of others across various situations and relationships. In this way, social roles ease social interactions by making behavior more predictable.

Theoretical Perspectives on Social Roles

Different theoretical perspectives place differing emphasis on the importance of the individual versus society in shaping both the meaning and content of social roles. From a structural perspective, social roles are predefined by society and people learn and acquire their social roles through the process of socialization (e.g., Stryker 1980). For instance, Toshiko's friend, Priyanka, was born into an upper-middle class family of medical doctors in Boston, Massachusetts. Consequently, Priyanka's parents guided her towards a career in medicine by praising and rewarding her for taking an interest in biology and for bringing home A + 's in chemistry. And when she inevitably did decide to become a doctor, her parents were able to pay her Harvard Medical School tuition. Thus, her family's encouragement and social position as upper-middle class doctors largely made Priyanka's achievement of this social role not only possible but desired. If Priyanka had been born into a family of actors in Los Angeles, she may instead be starring in the next summer blockbuster, having never set foot into medical school.

In contrast, humanistic perspectives tend to emphasize the importance of individuals in the creation and understanding of their own social roles. According to Kelly's (1955) personal construct theory, each person has their own unique understanding of a social role based on their own past experiences with others and their environment. For example, Priyanka might believe that being a good student means being quiet and

respectful during class whereas Toshiko might believe that being a good student means speaking up in class and challenging the teacher whenever possible. These two students may have come to these different understandings due to differences in their personalities and past experiences. Priyanka, a shy student, would feel embarrassed when her teachers called on her to speak in class, whereas Toshiko, an extraverted student, would relish the opportunity to share her opinions with the class.

Both perspectives have their merits. The structural perspective lends itself to the type of social roles that are associated with social identities such as gender, race, ethnicity, social class, and culture, which are largely ascribed to an individual by other people and society. For example, a person who is assigned the sex "female" at birth and appears to others to be female will be treated by society according to the expectations associated with the female gender role (e.g., to be high in communal traits such as warmth, but low in agentic traits such as dominance). These social role expectations often occur regardless of how much that person actually identifies with the female gender role. Social psychologists have long been interested in these kinds of social roles because they help to explain the stereotyping of different groups. For instance, Eagly (1987) documented how gender stereotypes follow from the societal division of men into primarily high status, provider roles, and women into lower status, caregiving roles. In contrast, the humanistic perspective lends itself better to social roles that are associated with personal identities such as occupational or relational roles. For instance, people can decide between a range of possible career paths, and – depending on their skill, determination, and privilege – they can pursue the career or careers that align most closely with their personality and interests. Understandably, this perspective has typically been of greater interest to psychologists who study personality and individual differences.

Most theorists fall somewhere between these two perspectives: recognizing that people are necessarily influenced by the broader social

structure within which they reside but are also active in the construction and meaning of their own social roles. This understanding is evident in Allport's (e.g., Allport 1961) writings. According to Allport, there are four components of a social role: (1) *role expectations*, which refer to society's expectations for how a role should be performed, (2) *role performance*, which refers to the actual behaviors associated with a particular role, (3) *role conceptions*, which, similar to Kelly's definition, refer to a person's interpretation of their own role and expectations for how they should behave, and (4) *role acceptance*, or the degree to which a person likes a role and integrates it into their self-concept. These first two components, role expectations and performance, reflect the structural nature of a social role, whereas the latter two components, role conceptions and acceptance, emphasize how individuals uniquely interpret and understand their social roles. Ultimately, most social roles have a set of socially defined expectations. However, people may differ in the degree to which they share these expectations and identify with their roles, which, in turn, may influence the degree to which they behave according to role expectations.

Social Roles, Personality, and Behavior

In everyday life, both social roles and personality interact to determine actual behavior. If Toshiko is high in the personality trait agreeableness, this relatively stable aspect of her personality will predict *similarities* in her behavior across situations. For example, as a manager, she brings her employees care packages when they are sick; as a runner, she offers kind words of encouragement to her running friends; and as a caregiver, she buys her grandmother flowers every day. Though her specific role behaviors may differ, in each situation she behaves in a way that is highly agreeable and would certainly be perceived this way by others.

Conversely, social roles can lead to *differences* in a person's behavior across situations.

In other words, social roles may activate or exaggerate different aspects of personality (Donahue and Harary 1998). For example, Toshiko may be more extraverted with her Improv friends because both the situation (e.g., Improv) and relationship (e.g., friendship) draw out that aspect of her personality. Similarly, she may be more authoritative in her role as a manager compared to in her role as a caregiver for her grandmother. As a result, other people may perceive Toshiko's personality differently depending on the role she occupies.

In extreme cases, social roles can lead people to behave in ways they never would have imagined. One rather infamous example of such conformity to role expectations comes from Zimbardo's 1973 Stanford Prison Experiment (Zimbardo 2007). In this study, Zimbardo turned the basement of the Stanford Psychology department into a makeshift prison and recruited male college students to play the roles of prisoner or prison guard. The "prison guards" quickly became authoritative and aggressive, forcing prisoners to do pushups and humiliating them. Accordingly, the "prisoners" became compliant and submissive to the guards' authority and abuse. After the study ended, several participants remarked on how their own abusive behavior as guards or submissive behavior as prisoners was highly uncharacteristic of their typical personality. This study – though extreme and highly unethical by today's standards – demonstrates the powerful potential of social roles to influence behavior, given the right set of circumstances.

Additionally, some social roles may function like personality traits by influencing behavior across a variety of situations. These social roles are often those that are salient across situations or perceived as central to the self (McCall and Simmons 1978; Stryker 1980). For example, if Toshiko perceives her gender role as central to her sense of self, she may behave in a way that is expected of this role (e.g., warmth) across a variety of situations. The expectations associated with her gender role may complement the expectations associated with her other roles: both the female

gender role and caregiver role prescribe traits such as warmth and caring behaviors. The more Toshiko's role behaviors are consistent with her personality and sense of self, the more satisfied she will be in her roles (Roberts and Donahue 1994). However, if the expectations associated with two roles are in opposition, a psychologically uncomfortable and exhausting sense of role conflict can arise. Thus, it may behoove her to pursue social roles that allow her to be her most authentic self.

Finally, both social roles and personality can influence one another. A study by Roberts et al. (2003) found that adolescents' personalities influenced the kinds of work roles they eventually occupied as young adults. For example, adolescents who had warm and sociable personalities were more likely to have prestigious and high-paying jobs as young adults whereas those with aggressive personalities were least likely to have successful and satisfying work roles as young adults. In turn, these work roles influenced later personality development. Those who acquired higher status work roles as young adults became less anxious, happier, and more self-confident. Clearly, both social roles and personality can interact to influence one another over the life course.

Conclusion

Social roles are essential to everyday life. Without them, there would be no clear guideline for how to behave or what to expect from others in various situations or relationships. In this way, social roles facilitate everyday social interactions. However, social roles are not the sole determinant of behavior. Personality and other individual differences also influence the pursuit and enactment of various social roles. In fact, some of the most defining moments in history are those where individuals have challenged social roles through their behavior. For example, the American Civil Rights movement of the twentieth century was sparked by Rosa Parks, an African American woman, who refused to give up her seat to a White man on a city

bus. Individual actions like these can help to re-define social role expectations for the better. Ultimately, social roles may offer a template for behavior but, to a large extent, individuals determine just how closely that template will be followed.

Cross-References

- ▶ Gender Roles
- ▶ Gender Schemas
- ▶ Labeling
- ▶ Scripts
- ▶ Stereotypes

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Social Selection for Human Altruism

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Synonyms

Costly signaling; Group selection; Multilevel selection; Sexual selection

Definition

Social selection occurs when social interactions produce changes in gene frequencies favoring phenotypic traits that enhance success in gaining or maintaining any reproductively valuable resource, including social status, mates, and social partners (see West-Eberhard 1979; Figueredo et al. 2015).

Introduction

There are diverse usages of the term “social selection.” It has been (misguidedly, in our view) theorized as an alternative to sexual selection theory (Roughgarden 2012). In contrast, West-Eberhard (1979) considered it useful to distinguish between sexual selection (produced by mate choice and social competition for mates) and social selection (produced by social competition for resources rather than social competition directly for mates), viewing them as two complementary forms of natural selection related to intraspecific social competition. Others have also pointed out that sexual selection can be conceptualized as a subset of social selection (Lyon and Montgomerie 2012). The more general concept of social selection seems to help better explain some traits related to female competition for ecological resources better than traditional sexual selection

theory (Tobias et al. 2012). Distinguishing the more general concept of social selection from sexual selection seems to help explain some traits, particularly traits related to female competition.

Social competition directly for ecological resources may select for diverse strategies for acquiring those resources including the use of cooperative interactions. Below, we consider how social selection may have adaptively shaped human personalities for displays of value as a social partner and traits that promote cooperative, rule-compliant, and altruistic behavior in some individuals more than others. Increased social competition for resources may favor preferences for choosing social partners who display these potentially valuable social traits, important in successfully acquiring resources (Nesse 2007).

Runaway Social Selection for Extreme Altruism

Nesse (2007) argued that runaway social selection, driven by competition to be chosen as a social partner in mutually beneficial interactions, could explain the evolution of various extreme human traits including altruism, cooperation, and our moral capacities. Accordingly, just as potential mates compete by displaying traits that influence *mate* choice, potential social partners compete by displaying traits that influence *social* partner choice. Potential partners vary in resources and reliability of providing selective benefits (i.e., partner value). *Displays of* and *preferences for* extreme partner value are naturally associated within social interactions and “can result in runaway social selection increasing both traits to extremes,” even decreasing other traits/characteristics related to individual fitness. Our own social partner and mate choices for desirable personality traits may have “domesticated” us, resulting in extreme eagerness to please others, high altruism, lower aggression, and moral commitments.

Simon (1990) described an alternative model of intense social selection for similar traits such as “docility” – readiness to accept social instruction,

social influence, and to conform to norms – and costly altruism, even if providing that altruism had a net fitness cost to individuals that was “beyond support from expected reciprocity or social enforcement” (i.e., beyond benefits of partner choice or punishment of cheaters). Both models of these social selection seem to predict particular traits (e.g., docility, rule-compliance, guilt, shame, empathy) closely associated with agreeableness and conscientiousness are strongly socially selected.

Controversially, researchers report that the big five personality traits intercorrelate somewhat. A higher-order trait, known as the GFP (general factor of personality), includes statistical variance from each of the “big five.” High GFP scorers report high Openness, Conscientiousness, Extraversion, Agreeableness, and low Neuroticism. Consistent with social selection theories, Rushton and Irwing (2011) suggested the GFP was, perhaps, selected for altruism and socially desirable behavior. The GFP has also been empirically associated with higher reported strength of rule-compliance or rule-governance (Gladden et al. 2012), defined as control of behavior by antecedent verbal instructions and, so, relates closely to docility and compliance to social norms. Rule-compliance fully mediated negatives relations between the GFP and delinquent behaviors.

Altruism as a Socially Selected Costly Signal

Zahavi and Zahavi (1997) argued altruistic behavior directly benefits altruists because they gain *social prestige*. They explain altruistic behavior as a costly, honest signal of individual quality. Those that can demonstrate superior levels of altruism gain in terms of social prestige, ultimately gaining reproductive advantages. As evidence for their *altruism as a handicap to gain prestige theory* view (and contrary to predictions from reciprocal altruism theory), they explain that avian babblers “*compete with one another for the ‘right’ to be altruistic,*” and, rather than “expect” partner reciprocation, babblers prevent each other from doing their share. They suggest altruistic acts

could be considered substitute threats because, based on their theory, altruistic acts function to gain competitively limited resources (status).

Consistent with a costly signaling function of altruism, social selection may favor individuals that successfully compete for social prestige by providing altruism. When altruistic behavior is viewed as a costly signal of some aspects of phenotypic quality (or superiority), we should expect social selection to lead people to “show off” (perhaps without awareness) more altruism than others can in order to enhance one’s social prestige. Supporting this, Berczkei et al. (2010) found when volunteering *publicly*, participants chose costlier actions, which increased social prestige among observers, but chose less costly activities when volunteering *anonymously*. Displaying generosity, fair moral reasoning, and/or moral outrage in response to violations could also potentially serve as competitive signals of one’s value and trustworthiness as a social partner within a group.

Stable Social Conditions, Associated with Slow Life History Strategies, may Promote Socially Selected Displays and Preferences of Altruism

Figueredo et al. (2015) argued that social selection may be one of several (multi-level and sometimes opposing) evolutionary forces jointly shaping individual differences in evolved life history strategies. Because “slow” life history strategies (in contrast to “fast” life history strategies) should be favored under stable and controllable social and ecological conditions where long-term social relationships and altruism are potentially more beneficial, slow life history strategists should be more adapted to “invest in” stable social bonds, attachments, and stable social relationships. Thus, slow life history strategists should be expected to more intensely compete for opportunities for mutually beneficial social interactions and/or to gain social prestige by displaying costly altruism (Zahavi and Zahavi 1997), moral commitments, and trustworthiness.

Consistent with the view that stable social environments promote altruism, Wilson et al.

(2009) reported that, across Binghamton, NY, “prosocial” individuals receive multiple forms of social support while living in neighborhoods with larger numbers of altruistic residents, who may naturally “find” and associate with one another. From a life history theory perspective, these clusters of prosocial individuals offer a stable and supportive social environment that facilitates and favors clusters of slow LH strategists mutualistically interacting. In contrast, clusters of fewer (available) altruistic partners are inconsistent with investing in mutualistic social strategies for acquiring resources and favor fast LH strategies, opportunistically taking more immediate benefits/resources when available.

Conclusion

Social selection encompasses all forms intraspecies social competition over any evolutionarily important resource. Social competition through partner choice, costly displays of partner value, and the nonrandom formation of cooperative social groups could have strongly shaped human personalities over evolutionary time, perhaps including favoring higher levels of the general factor of personality (GFP) and slow life history strategies. Social selection for altruistic personalities may be particularly strong under stable and controllable socio-ecological conditions where altruistic interactions may potentially have higher payoffs and where “runaway sexual selection” (Nesse 2007) could become established. However, no single evolutionary selective pressure is likely to account for human altruism across situations.

Cross-References

- ▶ Altruism
- ▶ Kin Selection
- ▶ Life History Theory
- ▶ Reciprocal Altruism
- ▶ Social Cooperation
- ▶ Social Interaction

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Social Skills

- ▶ Social Monitoring System

Social Skills Self-Report Measure

- ▶ [Rathus Assertiveness Inventory](#)

Social Skills Training

- ▶ [Social Emotional Learning \(SEL\) Programs](#)

Social Standing

- ▶ [Status](#)

Social Stigma

- ▶ [Deviance](#)

Social Support

- ▶ [Received Support](#)

Social Support Processes

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Synonyms

[Social connection](#); [Support](#)

Definition

Psychological processes related to the perception or experience that one is loved, cared for, and valued as part of a supportive social network of mutual assistance

Introduction

This entry examines the interaction between individual differences and social support processes: for whom does social support work best, and who may be left behind? The entry details the role of individual differences in received (objective) and perceived (subjective) social support. First, individual differences influence how people receive support: those who are securely attached and who have a more positive self- or worldview are more likely to seek or indirectly elicit support than others. Second, individual differences influence perceptions of support. Dispositions related to positive self- and worldviews increase perceptions of support, whereas negative self- and worldviews increase hypervigilance and self-handicapping behaviors that inhibit positive support perceptions.

Social Support Processes

Participation in group life can be like an inoculation against threats to mental and physical health. This is much cheaper than the pharmaceutical pathway, with far fewer side effects. And as a means of keeping the doctor at bay, it is also likely to prove much more enjoyable (Jetten et al. (2009), Scientific American).

In their book, *The Social Cure*, Jolanda Jetten and her colleagues (2009) highlight decades of research that converge on a singular notion: social connection with others is crucial for health and well-being. The seemingly boundless benefits of social support range from promoting happiness to conferring immunity against illness and even death. Nevertheless, social support does not

benefit everyone equally; some have difficulty perceiving and realizing the benefits of support. This entry examines the question of individual differences and social support: for whom does social support work best, and who may be left behind?

Social Support Terminology

Before exploring the relevant literature, the terms individual differences and social support deserve clarification. *Individual differences* refer to traits and dispositions that are relatively stable across time and situations (e.g., personality, self-esteem, optimism, attachment style). The term *social support* refers to the perception or experience that one is loved, cared for, and valued as part of a supportive social network of mutual assistance (Feeney and Collins 2015; Thoits 2013; Uchino 2009). This definition broadly includes psychological forms of support (e.g., providing words of reassurance or reappraisal), physical and tangible forms of support (e.g., financial support, transportation, caretaking), informational support (e.g., advice or instruction), and support via inclusion in a valued group (i.e., social acceptance and belonging).

Of interest to the present endeavor, these types of support come in two forms: received and perceived support. *Received support* is the objective social support a support-provider gives to a support-recipient. *Perceived support* is the support-recipient's mental representation of their received support. Interestingly, perceived and received supports correlate only modestly, and the individual differences that predict received and perceived support differ. Therefore, this entry discusses the role of individual differences separately between *received* and *perceived* support.

Individual Differences in Received Support

Between people, the reception of support is primarily influenced by individual differences that affect support seeking and elicitation in response to distress. People must alert potential supporters

to their needs, and vague or inconsistent mews for support can hinder support giving. Research suggests that those higher in individual differences that relate to non-reliance on others (e.g., insecure attachment, introversion) often are poor support seekers in their time of need. For instance, people with avoidant attachment styles are less likely to seek support than their securely attached counterparts. When they do seek support, people high in avoidance often use ineffective methods (e.g., sulking; Feeney and Collins 2015). As a result, avoidantly attached people report less satisfaction with the support they receive and are less effective at leveraging support to cope with stressors. Similarly, compared to extroverts, introverts are slower to ask for help when facing difficulty and thus receive less support (Swickert et al. 2002).

In addition to asking for support, individual differences also predict the extent to which people spontaneously elicit support from others. For instance, to the extent that people are emotionally expressive, they are more likely to convey their distress to others without directly asking for support (Pierce et al. 2013). This indirect expression of distress increases others' awareness of support needs and opportunities prompting them to initiate support attempts. Similarly, compared to their insecurely attached counterparts, those who are securely attached to their partners naturally elicit objective supportive behaviors from their partners more frequently (e.g., physical contact, positive comments) without specifically asking for support. Naturally educing support in this way can help prevent the potential negative side effects of seeking and receiving support, including admission of one's incapacity to handle a stressor or feelings of inequity in a relationship (McClure et al. 2014).

Individual Differences in Support Perception

Extensive literature suggests that the benefits of social support stem primarily from *perceived*, rather than *received*, social support. That is,

feeling supported is more important than actually receiving support in prompting physical and mental health benefits. This *paradox of received social support* (Maisel and Gable 2009) appears to stem in part from individual differences in how people respond to objective support behaviors.

One category of individual difference that influences how people perceive support: individual differences related to a positive outlook. Those who display more negative self- and worldviews (e.g., those with low self-esteem, pessimists) often perceive less available support (Marigold et al. 2014), even when they have objectively similar support to others. This underreporting of and dissatisfaction with support stems both from hypercriticism and support-handicapping behaviors. For instance, people who are high in neuroticism (i.e., emotional instability) tend to be more critical of the support they receive (Marigold et al. 2014) and thus show fewer mental health benefits from receiving support (McClure et al. 2014). Additionally, people who are chronically unable to manage their emotions (e.g., those high in trait anxiety) are generally dissatisfied with support as support does little to change their situation or emotions (Marigold et al. 2014). Participants with a negative outlook (e.g., those with low self-esteem) will even rebuff or discredit support from others who attempt to put a positive spin on negative situations. Of course, these negative experiences with social support do not necessarily represent the objective truth of received support. Instead, negative worldviews and behaviors that cripple possible effective support bias these interpretations. These views and behaviors create a self-fulfilling prophecy that impedes possible benefits of social support.

On the other hand, a positive outlook relates to greater perceptions of support. Traits like optimism, trust, and high self-esteem are associated with better memory for and more positive interpretation of others' supportive actions (Marigold et al. 2014). Interestingly, despite empirical evidence that dispositional optimists receive comparable or even less support than their pessimistic counterparts, optimists nonetheless report more and higher-quality supportive interactions (Vollmann

and Renner 2010). Therefore, just as negative self-views can cause underestimation of support, positive self- and worldviews appear to prompt overestimation of objective support. These evident biases have led researchers to propose that perceived social support functions partly as a cognitive personality trait that influences memory and interpretation of supportive interactions (Pierce et al. 2013; Uchino 2009).

Two other individual differences that also influence how people perceive and benefit from social support are self-complexity and personal control. People with greater self-complexity – multiple distinct identities – report greater perceived support as well as better stress responses (Thoits 2013). Those high in self-complexity also typically have more social identities, giving them more support networks to pull from (e.g., their wine club, their sports team, their religious group, their colleagues). A dispositional sense of personal control (e.g., autonomy, high internal locus of control; see Pierce et al. 2013) also influences whether perceived social support affects physical health and mental well-being. That is, people who take charge of their stress response also tend to garner more health and well-being benefit from perceiving a strong support network.

Conclusion

In the quote that opened this entry, Jetten and colleagues (2009) argue that social connection is both a more enjoyable and less risky alternative to traditional medical treatments for health conditions. While their observations may prove broadly true, the present entry provides some important nuance to the assumption that everyone benefits from social connection equally. Indeed, work on social support spanning decades converges on the observation that individual differences influence how people seek and elicit objective supportive behaviors, as well as how people respond to and mentally perceive support from their network. Specifically, individual differences that promote productive support seeking and indirect support elicitation, as well as traits that promote positive

self- and worldviews, increase *received* and *perceived* support, respectively. Moreover, some people – those who already have traits related to psychological well-being and a sense of personal control – may be particularly able to take advantage of the social cure.

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Social Understanding

- ▶ Theory of Mind

Social Wariness

- ▶ Shyness

Social Withdrawal

- ▶ Inhibited and Uninhibited Children
- ▶ Shyness and Sociability

Social-Cognitive Perspective

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Definition

Social cognition governs appropriate social interactions and is involved in accurately processing interpersonal cues.

Introduction

Much of our daily decisions, routines, and actions are governed by social factors. For example, we feel guilty when we have hurt someone's feelings and quickly act to restore our erroneous actions. We may purchase a cup of coffee for our colleague when we know they are having a bad day. We may stop and console someone who just fell down the stairs and are in pain. Collectively,

the ability to form and sustain interpersonal relationships, and thus interact with others in a socially acceptable manner, is governed by social cognition. Social cognition encompasses the cognitive functions that govern appropriate social interactions and the ability to accurately process interpersonal cues. Social cognition is often evaluated in reference to the ability to recognize emotions and one's capacity for empathy. Emotion recognition refers to the ability to accurately infer the emotions of another individual through various modalities including facial expressions or nonverbal vocal cues. Additionally, empathy has been suggested to include two separate but related components: cognitive and emotional empathy. Cognitive empathy, or theory of mind, involves inferring another's mental state, and emotional empathy refers to the capacity to experience an emotional reaction in response to another's experience (Shamay-Tsoory 2011). Evidence for these two distinct but related components of empathy has been strongly suggested through neuroimaging studies showing dissociable underlying brain regions (see Marsh (2018) for an in-depth review) and clinical populations that feature selective dysfunction in one of the constructs.

Humans are inevitable social creatures, and thus, the ability to appropriately guide one's behaviors and decisions in a socially appropriate manner is vital. Deficits in recognizing other's emotions or responding to other's emotions can lead to detrimental social functioning. This entry will provide a brief overview of the importance of social cognition and examine how social cognitive functioning is impacted in different clinical populations. As social cognitive abilities govern how social and emotional information is processed and represented, impairments in these abilities may in turn present with abnormal social behaviors.

The Importance of Social Cognition

Defects in one or more domains of social cognition can present clinically in many ways. For example, it may present as a disregard for others'

distress or losses, lack of interest in social activities, failure to understand jokes or sarcasm, and failure to process social cues such as anger or embarrassment (Henry et al. 2016). Ultimately, impairments in social cognition can critically alter one's social behavior which governs capabilities to form and maintain social connections. Furthermore, social connections and social support are vital protective factors for many mental health problems.

Emotional facial expressions serve a communicatory function, eliciting information from the communicator (the creator of the expression) to the observer (e.g., the one to provoke the expression; Blair 2003). Specifically, expressions of fear, sadness, and happiness modulate the probability that the actions that caused the display of the emotions will be displayed again (Blair 2003). Whereas fearfulness and sadness discourage the associated actions, happiness increases the probability of the occurrence of the action. Disgusted expressions signal aversive information but often pertaining to food or taste. Furthermore, expressions of anger or embarrassment modulate current behaviors or actions, especially in social situations involving hierarchy interactions (e.g., a situation between a teacher and a student). Thus, the inability to appropriately and accurately recognize and process emotional facial expressions could potentially lead to failures in developing and maintaining healthy social relationships. In fact, poor emotion recognition abilities are related to lower quality of life (Phillips et al. 2010). Deficits in recognizing distress cues including fear and sadness are associated with the presence of antisocial behavior (Marsh and Blair 2008). In neurodegenerative diseases, emotion recognition impairment is associated with caregiver depression (Brown et al. 2018). In contrast, the ability to recognize emotions accurately has been associated with engagement of prosocial behavior (Marsh et al. 2007) and relationship well-being in adulthood (Carton et al. 1999). Overall, accurately recognizing emotions serve as a vital component to our everyday social functioning and forming and maintaining appropriate interpersonal relationships.

As with emotion recognition, empathy is important to social functioning and the engagement of appropriate social behavior. Impaired theory of mind abilities (cognitive empathy) are related to smaller social networks (Stiller and Dunbar 2007) and poorer social competence (Brune et al. 2007). Callous and unemotional (CU) traits, a marker used to gauge deficient emotional empathy, predicts poorer peer functioning (Haas et al. 2018) and higher rates of violent recidivism (i.e., re-offending in incarcerated individuals after release; Hart et al. 1988). CU traits in children and adolescents are significantly associated with measures of antisocial and aggressive behavior, even after controlling for level of aggression and conduct problem severity (Frick et al. 2014); hence, levels of CU traits seem to be uniquely vital in predicting the occurrence of aggressive behaviors.

How Is Social Cognition Measured?

The appropriate and accurate assessment of social cognitive abilities is quite important as these abilities are disrupted in certain neuropsychiatric, developmental, and neurodegenerative disorders. The importance of social cognitive abilities can be exemplified by the most recent version of the *Diagnostic and Statistical Manual of Mental Disorders*, Fifth Edition (American Psychiatric Association 2013), which has included social cognition as a cognitive domain of neurocognitive disorders. The objective and valid ascertainment of these abilities is crucial. This section will provide a brief overview of the types of tasks used to assess social cognition (see Henry et al. (2016) for an in-depth review of the various measures used to assess social cognition).

Emotion Recognition

The DSM-5 has recognized performance on emotion recognition tasks as an example of social cognitive abilities (American Psychiatric Association 2013). Emotion recognition tasks often employ the *universal* emotions including sadness, happiness, fear, disgust, anger, and

surprise; however, some researchers have incorporated other emotions such as embarrassment, pride, shame, and guilt. Typically, these tasks display static pictures of actors displaying emotional faces, and the participants are instructed to select the emotional label that best describes the emotion being portrayed. Other variants of emotion recognition tasks may present dynamic stimuli (e.g., actor creating an emotional face from a neutral face), video clips, or virtual images of actors. Furthermore, emotion recognition tasks can be graded in difficulty by presenting participants with emotional faces of varying emotional intensity. Specifically, pictures of the actor's emotional face are morphed with their corresponding neutral face to create different emotional intensities (e.g., 100% would correspond to the actor's emotional face, where 90% would be a morph of the actor's emotional face with 10% of their neutral face). Importantly, these techniques make the task more challenging, which increases the sensitivity of these tasks to detect subtle differences in performance between populations. Emotion recognition tasks can extend beyond faces and involve other modalities including nonverbal vocal cues (e.g., laughing for happiness or a scream for fear) or require participants to identify the emotional prosody from speech. Though, emotion recognition from facial stimuli seems to be the most common mechanism for testing emotion recognition abilities. Importantly, the assessment of emotion recognition does not only require participants to depict the appropriate emotion, but it also requires other intact cognitive processing including language and face-processing abilities. Control tasks can be utilized to ensure that participants do not have any deficits that may better encapsulate their emotion recognition performance. For example, to assess visuo-perceptual abilities, researchers may use a face identity matching task whereby the participant's goal is to match the identity of a target face with the appropriate face from an array of distractors. Poor performance on this task would suggest dysfunctional visuo-perceptual abilities, which may interfere with emotion recognition tasks involving faces. Ultimately, using control tasks

is critical in the assessment of social cognition, especially in disorders that feature various impairments.

Empathy

Both cognitive and emotional empathy can be assessed through questionnaire and task-based assessments. Questionnaires tapping into emotional empathy may involve directly asking the individual (self-report) or an informant (informant-report), the degree to which the person experiences compassion or concern for another individual. In contrast, questionnaires measuring cognitive empathy may ask for ratings of abilities to understand and predict other people's behaviors (Henry et al. 2016). Although self-report measures may seem appealing, as it may be suggested that the individual themselves will more accurately report the degree of cognitive and emotional empathy, informant ratings may be more important in some instances (Henry et al. 2016). Specifically, self-report measures necessitate that the participant has sufficient insight into their behavior and emotional processing abilities, a feature that is sometimes absent in some neurodegenerative disorders. Furthermore, self-report measures require that participants are willing to disclose personal information. Therefore, in most instances, both self-report and informant-report measures are warranted.

Cognitive and emotional empathy can also be measured with task-based measures; these may offer an opportunity to assess "online" empathizing abilities. The majority of measures tapping into cognitive empathy require the participant to infer the mental states and thoughts of a protagonist in a story/picture sequence. Specifically, the participant is instructed to follow a story and then interpret the character's behaviors and identify and understand false beliefs, sarcasm, irony, or humor. In contrast, emotional empathy tasks require the participant to describe what they feel toward the protagonist in the story/picture sequence and indicate the level of emotional intensity or emotional arousal. Levels of arousal can also be evaluated through acquiring physiological measures including skin conductance or heart rate. Although task-based measurements

may be less susceptible to participants responding in a socially desirable way – a concern in questionnaire measures – they often rely on intact language and executive functioning, which may be problematic in some disorders that specifically interfere with language skills, or when the disorder has progressed too far. Control tasks may be utilized to help identify possible confounds including poorer cognitive skills, which may account for cognitive empathy abilities.

Clinical Applications

Based on the current literature on assessments of social cognitive performance, Henry et al. (2016) developed a preliminary algorithm for the evaluation and treatment of social cognitive impairments in clinical populations. When social cognitive deficits are suspected through history and current presentation, it is recommended that an assessment using reliable and clinically validated measures is completed to ascertain the specific social cognitive deficit, such that a more comprehensive evaluation focusing on the domains in question can be conducted (for a detailed overview of validated measures, see Henry et al. (2016)). When available, test performance should be interpreted in relation to population norms. Notably, the availability of norms for many measures is limited, increasing the difficulty of interpreting performance in these tasks. Next, identifying whether the social cognitive impairments reflect the primary impairment or is the consequence of other neurocognitive dysfunction is critical and can be ascertained through appropriate control tasks. Once the social cognitive deficit is identified as the primary or secondary impairment, appropriate interventions can be directed to the appropriate cognitive system. There has been much progress on developing treatments targeting social cognitive deficits, and this continues to be an active area of research and development. For example, recent work is investigating the role of oxytocin in modulating social behavior including empathy and emotion recognition in developmental disorders (Yamasue and Domes 2018) and in neurodegenerative diseases (Finger et al. 2018). Furthermore, modulating

attention to critical regions of the face has been shown to enhance recognition of fear (Dadds et al. 2006), which is often poorly recognized in individuals with psychopathic traits or in individuals with damage to the amygdala. Following treatment, performance on social cognitive tasks and importantly social functioning including quality of life, employment, social relationships, and social behavior should be evaluated.

Clinical Disorders Featuring Impaired Social Cognition

Psychopathy

Psychopathy is a developmental disorder characterized by the engagement in antisocial behaviors and pronounced emotional processing impairments including a reduction in feelings of guilt, remorse, and empathy. Although there is some overlap in symptomology, psychopathy is not equivalent to antisocial behavioral disorders, which only focuses on the presence of antisocial behaviors. Importantly, a subgroup of individuals with antisocial behavioral disorders including conduct disorder, oppositional defiant disorder, and antisocial personality disorder display the classic emotional impairments evident in psychopathy, namely, the CU traits, a marker of reduced emotional empathy (Blair 2013). The identification of this subgroup may have important clinical implications as they are at a higher risk for more persistent and severe antisocial behaviors and show a different response to treatments (see Frick et al. (2014) for an in-depth review). In light of these research findings, the DSM-5 has incorporated a “limited prosocial emotions” specifier for the diagnosis of conduct disorder, to assist clinicians in identifying this subgroup (American Psychiatric Association 2013).

Emotion Recognition

It is well established that relative to healthy controls, individuals with disruptive behaviors and CU traits are less likely to respond, attend, or accurately recognize emotional stimuli that express distress (Viding and McCrory 2018). In

a meta-analysis of emotion recognition abilities in individuals with psychopathic traits and individuals who exhibited only antisocial behaviors (20 studies), it was found that relative to controls, this sample of individuals experienced deficits in recognizing fearful and sad expressions (Marsh and Blair 2008). Another meta-analysis assessing exclusively individuals with psychopathic traits (22 studies) revealed a small significant association between psychopathy and recognition deficits across all emotions (i.e., fear, sadness, anger, surprise, disgust, and happiness), with the largest associations found for fear and sadness (Wilson et al. 2011). Specifically, youth with psychopathic traits have been found to show a selective impairment for recognizing fearful (Blair et al. 2004) and sad emotional faces (Blair et al. 2001) and vocal tones (Stevens et al. 2001). When presented with facial emotional expressions that were displayed in increasing emotional intensity, children with psychopathic traits required greater emotional intensity before they could accurately recognize sadness. Furthermore, even when the fearful faces were presented at 100% intensity, youth with psychopathic traits were more likely to make recognition errors relative to healthy controls. It has been suggested that healthy individuals avoid engaging in antisocial behavior due to the aversive nature of the victim’s distress (i.e., fear and sad facial expressions); however, when the recognition of these distress cues is disrupted as in individuals with psychopathic traits, these cues are not considered aversive. Hence, individuals with psychopathic traits may not avoid engaging in antisocial behavior due to the lower aversiveness emanated by these social cues (Blair et al. 2004).

Empathy

Individuals with psychopathic traits show deficits in emotional empathy but have preserved cognitive empathy abilities. For example, individuals with psychopathic traits can successfully identify higher-level mental states from photographs of the eye regions of faces (Richell et al. 2003) and successfully recognized first-order false belief (i.e., what another person might mistakenly

think) and second-order false belief (i.e., what one person mistakenly thinks another person thinks; Jones et al. 2010). Furthermore, psychopathic traits are not related to performance on tasks requiring perspective-taking (Lockwood et al. 2013). With respect to emotional empathy, psychopathy is associated with atypical vicarious experience in response to the distress of others (Lockwood 2016). For example, relative to healthy controls, youth with psychopathic traits show reduced skin conductance response to distress and threatening stimuli (Blair 1999). Furthermore, youth with psychopathic traits report reduced physiological responses during fear-evoking situations, relative to healthy controls; this group difference was only found for fear and not for other emotions. Additionally, the youth with psychopathic traits report to feel fear less strongly and less often relative to controls (Marsh et al. 2011). Overall, there is an abundance of evidence suggesting that individuals with psychopathic traits show selective impairments in empathy abilities whereby their cognitive empathy – the ability to infer mental states and take the perspective of another individual – is intact; however, crucially, their ability to resonate with other’s feelings is disrupted.

Autism Spectrum Disorder

Autism spectrum disorder (ASD) is a neurodevelopmental disorder characterized by deficits in social communication/interaction and the engagement in restricted or repetitive types of behaviors and interests. These symptoms are present during childhood and cause a clinically significant impairment in everyday functioning. Importantly, these symptoms are not better explained by intellectual disability or global developmental delay (American Psychiatric Association 2013). With respect to the social communication/interaction domain, symptoms may present as impairments in social-emotional reciprocity (e.g., lack of social engagement and sharing of thoughts and feelings), deficits in nonverbal communication used in social interactions (e.g., absent or reduced eye contact), and difficulty developing and maintaining social relationships (e.g., reduced social interest).

Additionally, symptoms for restricted, repetitive patterns of behaviors may present behaviorally as inflexible adherence to changes in routines, engaging in repetitive motor movements, having highly intense and focused interests, and abnormal sensitivity to sensory inputs (American Psychiatric Association 2013).

Emotion Recognition

A meta-analysis including over 932 participants (48 studies) reported that individuals with ASD showed an overall emotion recognition deficit (Cohen’s $d = 0.80$) relative to healthy controls. Interestingly, age and IQ did not have a significant effect on these results. When individual emotions were examined, patients showed deficits in recognizing all emotions with the exception of happiness which was marginally impaired (Uljarevic and Hamilton 2013). In line with these results, a more recent meta-analysis of 1545 participants (43 studies) found a general emotion recognition deficit in the ASD group relative to healthy controls. The recognition deficits were not limited to one emotion specifically; but were found for fear, surprise, and anger following conservative statistical corrections for multiple comparisons; recognition impairments for happiness, sadness, and disgust did not remain significant following these corrections (Lozier et al. 2014). Overall, these meta-analyses suggest that individuals with ASD are impaired in recognizing emotional facial expressions, with some variability regarding which specific emotions are impaired. This variability may speak to the importance of methodological considerations. For example, as reviewed in Blair (2003), when children with ASD and healthy controls are matched on mental age, children with ASD are often found to be unimpaired in facial emotion recognition tasks. Though, other studies have found that when IQ is not a confounder, individuals with ASD continue to show impairments in affect recognition (Sucksmith et al. 2013). Overall, there seems to be variability in the literature regarding the influence of potential confounders on emotion recognition abilities and should be taken into consideration for future studies.

Empathy

Individuals with ASD demonstrate impaired cognitive empathy but intact emotional empathy [see review Blair (2005)]. In a task-based measure where participants are shown an emotional picture (e.g., individual falling down and getting injured), individuals with ASD perform worse relative to controls when asked to deduce the mental state of the character but perform normally when they were asked to rate how concerned/happy they personally feel for the character in the picture (explicit measure) or their personal ratings of arousal (implicit measure) (Dziobek et al. 2008). In a community sample, Lockwood (2016) found that ASD traits were associated with difficulty in a cognitive perspective-taking task, but not resonating with other's emotions (emotional empathy). Additionally, autistic traits are associated with deficits in identifying the mental states from photographs of the eye regions of face (Baron-Cohen et al. 2001). Overall, individuals with ASD show a dissociation in cognitive and emotional empathy, which is in direct contrast with individuals with psychopathic traits who show opposing pattern of deficits.

Frontotemporal Dementia

Frontotemporal dementia (FTD) is a highly hereditary neurodegenerative disorder and is often diagnosed at approximately 45–65 years of age. There are three clinical syndromes, with each presenting a unique pattern of atrophy and clinical symptomatology: behavioral variant (bvFTD) and two types of primary progressive aphasia (PPA), semantic variant (svPPA) and nonfluent-agrammatic (nfvPPA).

bvFTD is the most common syndrome and presents clinically by a loss of social mannerism (e.g., burping in public or making rude comments), engagement of impulsive actions (e.g., spending recklessly), and diminished response to other's needs. Furthermore, patients may engage in perseverative behaviors such as making repetitive movements and dietary changes including increased consumptions of carbohydrates and sweets. Individuals with bvFTD are classified with *possible* bvFTD if they meet the behavioral

symptoms, *probable* bvFTD if they additionally show neuroimaging evidence of involvement of the frontal and/or temporal lobes, or bvFTD with *definite frontotemporal lobar degeneration (FLTD) pathology* if there is either the presence of a pathogenic mutation or evidence of FTD-related pathology (Rascovsky et al. 2011). With regard to the other subtypes, the classical symptom of svPPA includes loss of word meaning and anomia. Patients may experience difficulty naming objects, especially for low-frequency words, and may present with surface dyslexia or dysgraphia. Lastly, patients with nfvPPA demonstrate intact object knowledge but present with effortful and halting speech. Patients present with agrammatism, demonstrated by the omission of functional words, and apraxia of speech which results in sound errors and articulation planning deficits (Gorno-Tempini et al. 2011).

The challenges in diagnosing patients early and accurately are well acknowledged, especially bvFTD given the insidious nature of the behavioral symptoms. Additionally, as there is much overlap between FTD and other neurodegenerative or psychiatric disorders, many patients are initially misdiagnosed. Relatedly, research is being conducted to establish and validate social cognitive tests to help differentiate between FTD and other-related disorders and increase diagnostic accuracy.

Emotion Recognition

Patients with FTD show deficits in recognizing emotions from a variety of modalities including facial expressions and nonverbal vocalizations (Hsieh et al. 2013). Although cognitive domains including language, attention, and perceptual abilities contribute to emotion recognition performance, visuo-perceptual processing is often intact, and cognitive impairments alone do not adequately account for emotion recognition deficits (Kumfor and Piguet 2012). Although emotion recognition impairments have been found across all syndromes, with more milder impairments in nfvPPA (Kumfor and Piguet 2012), it is important to note that fewer studies have investigated emotion recognition performance in svPPA and

nfvPPA relative to the bvFTD subtype (Kumfor and Piguet 2012). Assessing recognition performance across all subtypes is critical as it has been suggested that *some* syndromes benefit from enhanced emotional intensity to facilitate emotion recognition performance (Kumfor et al. 2011).

In a recent meta-analysis comparing 288 patients with bvFTD and 329 healthy controls (18 studies), patients performed more poorly relative to controls across all emotions, with severe impairments for negative emotions (Cohen's $d = 1.24$), especially for anger ($d = 1.48$) and disgust ($d = 1.41$; Bora et al. 2016). Additionally, there was a modest impairment for recognition of happiness. In general, patients are found to be impaired in recognizing negative emotions, with some variability regarding the specific emotion impaired, whereas deficits for recognizing positive emotions such as happiness are rather inconsistent. Importantly, when multiple positive emotions are included, patients with bvFTD show impaired recognition, suggesting that some of the inconsistent findings may be the result from limited number of positive emotions included in tasks (Goodkind et al. 2015). Patients with bvFTD show more severe emotion recognition impairments relative to Alzheimer's Disease ($d = 1.23$). These impairments include negative emotions ($d = 0.75$) including disgust, anger, and fear, but not happiness ($d = 0.13$). Importantly, scores on tests of general cognition, age, and gender do not contribute to these group differences (Bora et al. 2016).

The evidence briefly reviewed above suggests that patients with FTD show marked impairments in recognizing emotions, particularly for negative emotions. More research on the different subtypes of FTD is warranted to identify specific patterns of deficits, especially within the PPA subtypes. Additionally, longitudinal studies evaluating emotion recognition abilities over time are also needed to better understand the progressive nature of FTD on these skills.

Empathy

Reduced empathy is a hallmark symptom in bvFTD but can present in the other FTD subtypes depending on the brain regions impaired

during the progression of the disease. Through questionnaire measures, caregivers report that patients with bvFTD show reduced ratings of cognitive and emotional empathy relative to controls; however, patients' self-report do not yield these differences (Eslinger et al. 2011). This contrast highlights the importance of utilizing both caregiver and self-report measures in clinical populations to obtain a well-rounded understanding of the empathy deficits. In a meta-analysis of cognitive empathy performance of 334 patients with bvFTD (18 studies), patients were significantly impaired in cognitive empathy tasks relative to healthy controls ($d = 1.79$), with the greatest impairment identified in tasks requiring the detection of faux pas, sarcasm, and mental states from pictures of the eyes (Bora et al. 2015). Importantly, longer disease duration was associated with greater cognitive empathy deficits. Furthermore, in a meta-analytic comparison of 228 patients with bvFTD and 229 patients with Alzheimer's disease (13 studies), bvFTD were greatly impaired. This difference remained, even when matched on general cognition and disease duration. In task-based measurements of cognitive empathy, patients with FTD demonstrate difficulties in identifying mental states from photographs of eye regions in a face relative to healthy controls (Couto et al. 2013). Additionally, when presented with a story of characters in social situations, patients with FTD are impaired at interpreting the belief and intentions of the protagonists (Eslinger et al. 2007). Interestingly, theory of mind impairments are found in patients with intact executive functioning and general neuropsychological functioning (Lough et al. 2001).

Although most of the literature focusing on task-based assessments have focused on cognitive empathy abilities, one study parsing emotional and cognitive empathy utilizing task-based assessments found deficits in both emotional and cognitive empathy in patients with bvFTD (Oliver et al. 2015). Furthermore, a recent meta-analysis focusing solely on emotional empathy in 281 bvFTD patients (10 studies) found a moderate effect size ($d = 0.98$) of impaired performance

across an array of emotional empathy tasks (questionnaires and task-based) relative to controls (Carr and Mendez 2018). Considering the debilitating consequences of impairments in empathy, current work is exploring the use of oxytocin for the symptomatic treatment of deficits in emotional empathy and other aspects of social cognition (Finger et al. 2018) in FTD.

Overall, patients with FTD demonstrate impairments in both cognitive and emotional empathy utilizing task-based assessments and questionnaire measures. Although the majority of studies have focused on cognitive empathy abilities, some work has examined emotional empathy. Given the apparent discrepancy between caregiver and patient self-reported questionnaires, more work assessing emotional empathy utilizing task-based assessments is warranted.

Conclusion

The current entry provided a brief overview of the importance of social cognition and methods of assessments. Furthermore, this entry also described how social cognitive domains are influenced differentially in three distinct clinical populations. Importantly, regardless of the social cognitive domain impaired, deficits in social cognition can impair social functioning and the ability to form and sustain interpersonal relationships. A thorough account of the social cognitive impairments is important to identify whether these impairments are the primary disturbance, or whether they are secondary to other cognitive deficits or brain insults. Research is actively assessing potential treatments and interventions targeting social cognitive deficits.

Cross-References

- ▶ Autism Spectrum Disorder
- ▶ Basic Emotions
- ▶ Callousness
- ▶ Empathy

- ▶ Facial Expressions and Emotion
- ▶ Oxytocin
- ▶ Psychopathy
- ▶ Theory of Mind

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Social-Emotional Competence

► Social Emotional Learning (SEL) Programs

Social-Emotional Primary Prevention

► Social Emotional Learning (SEL) Programs

Social-Emotional Universal Intervention

► Social Emotional Learning (SEL) Programs

Socialization

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Definition

Socialization comprises the processes that facilitate an individual becoming part of a social group. Socialization is a bidirectional relationship between the individual and socializing agents such as families, peers, educational systems, workplaces, and the media. These socializing agents provide the individual with information regarding the values, skills, and roles that will allow them to become incorporated into a particular group. In other words, socialization encompasses the processes through which culture is transmitted.

Introduction

Socialization is a process that occurs throughout the life span, but one that has garnered particular empirical attention in early development. Indeed, much of the seminal work on socialization focuses on what is termed primary socialization, or the processes through which children learn the information necessary to become incorporated into a larger societal culture (Maccoby 1992). Early work on socialization focused on the processes through which parents facilitate the development of appropriate behavioral habits in children, beginning with relatively simple information such as personal hygiene and progressing to relatively complex interpersonal information such as learning how to coordinate and play with others (Maccoby 2015). Although there is a wealth of research on primary socialization through parental and family sources, early socialization does not only take place within the family. Previous work demonstrates the role of many sources of socializing information, including peers, educational systems, and the media. In fact, there is evidence

that peers may be particularly influential sources of information about group norms and values (Harris 1995).

Socialization does not only concern the ways in which an individual navigates becoming a member of greater society, but can also concern the processes through which individuals become socialized into smaller groups within their culture. This conceptualization of socialization is often termed secondary socialization. For example, there is a wealth of research on organizational socialization, whereby individuals learn the skills and norms necessary to become functioning members of specific workplace environments (Ashford and Nurmohamed 2012). In organizational socialization, individuals acquire and evaluate information about how to do their jobs, institutional procedures, politics, and the local values and norms. Although much of this learning process may be situated in an individual's early organizational tenure, researchers suggest that socialization processes are ongoing through an individual's career. Indeed, this is consistent with recent work on socialization throughout the lifespan (Fingerman and Pitzer 2007). Studying socialization in later life presents interesting complexity, although it has been relatively understudied. Whereas socialization in early life generally concerns the acquisition of information and behaviors that will allow individuals to have future successes within society, socialization later in life involves the acquisition of information and behaviors that serve a number of different functions: the facilitation of future success, but also a desire to see continuity and growth with regard to their past and the need to adapt to social and physical changes.

What Information is Transmitted?

Information that is passed on to new group members is varied in that it can include any knowledge about what group memberships means and entails. The specific information conveyed through socialization is thus necessarily embedded in the context of the specific group. However, there has been a particular focus on the

socialization of emotional information and information about social roles.

The wealth of research on socialization of affective information is a function of a variety of factors. First, this focus stems in part from an early acknowledgment of the importance of emotions in both psychodynamic and attachment theories. Children's ability to communicate through emotions also predates their ability to communicate verbally, making affect particularly important in early socialization (Maccoby 1992). Finally, emotions are interpersonal in nature, and allow individuals to communicate and coordinate action, making this information integral in one's ability to become part of a group. The research suggests that a key component of socialization is facilitating the development of emotional regulation. Thus, in primary socialization, parents help children develop the ability to cope with negative emotions, display emotions that are situationally appropriate, respond appropriately to others' emotions, and develop empathy (Grusec 2011). Emotions also factor into secondary socialization experiences. For example, through the process of socialization in the workplace, individuals learn to display emotional responses that will help them be evaluated positively by the new group (Ashford and Nurmohamed 2012). In addition, the experience of socialization itself can elicit emotional responses. The process of learning about appropriate group behavior may lessen negative affect such as discomfort, or may elicit negative responses such as disappointment (Ashford and Nurmohamed 2012).

There is also a large body of research on the socialization of roles, with a particular focus on how information regarding gender roles is transmitted (Wood and Eagly 2002). Gender roles stem in part from the differential information boys and girls receive about what behavior is appropriate. For example, cross-culturally, girls are more likely to be rewarded for nurturing behavior than boys, which in turn can contribute to women's overrepresentation in societal roles that involve caring for others, including stay at home parents and nurses. Individuals also experience negative consequences for enacting

behavior that is societally unexpected for their gender, reducing the likelihood they will engage in similar behavior in the future (Rudman and Fairchild 2004). Thus, socialization processes generally perpetuate the status-quo, contributing to the persistence of cultural values.

How is Information Transmitted?

The processes through which information about group membership is disseminated and evaluated are diverse, reflecting the broad range of theoretical perspectives on socialization (for reviews see Maccoby 1992, 2015). Much of the work on socialization draws from behavioral and learning principles, suggesting that individuals learn how to become functioning members of groups through a series of consequences, or rewards and punishments. Individuals also learn through modeling, imitating the behavior of others with whom they identify. Early socialization work also drew on psychodynamic theories, suggesting that socialization is the process through which individuals' instinctual impulses are channeled into societally appropriate outlets. Subsequent research incorporated additional perspectives, including attachment and cognitive theories. Attachment theory posits that the relationship one has with a primary caregiver serves as a model for subsequent relationships in broader society, influencing how individuals interact more generally. Cognitive perspectives focus on the importance of an individual's perceptions of the group they are learning about, including their desire to belong and view the groups to which they belong favorably (Harris 1995).

More recent approaches to socialization also consider the role of biological processes in the ways in which individuals become embedded in social groups. For example, recent work suggests that evolutionary theories are not at odds with socialization, but rather extend our understanding of socialization to include the more distal causes of these processes (Beaulieu and Bugental

2007). Evolutionary perspectives suggest that our current behaviors are a reflection of those behaviors that were adaptive in our evolutionary past, allowing our ancestors to survive and pass on their genetic material. Thus, our evolutionary pasts may have predisposed us to engage in the types of group interactions we do now, including caring for our young, and shaped the ways in which information about appropriate group behavior is transmitted. Considerable recent strides have been made in terms of incorporating the role of genetics more generally into the study of socialization (Grusec 2011). For example, there are genetic and hormonal predictors of the types of affiliative, prosocial behaviors complicit in socialization.

Current approaches to understanding the processes through which socialization occurs are bidirectional, combining previously discussed approaches and also allowing for an active role of the individual being socialized (Paschall and Mastergeorge 2016). Bidirectional approaches to socialization not only study the ways in which socializing agents like parents provide information about appropriate behavior to their children, but also study children's reactions to this information and how these reactions may cycle back and in turn affect the socializing agents. The bidirectional approach thus acknowledges that an individual can elicit a particular type of response from a socializing agent, and that the individual may also actively seek out information regarding appropriate behavior and norms within a specific group context. For example, a child's genetic makeup is a predictor of the kind of relationship that develops with their parent (Grusec 2011), and newcomers to an organization often explicitly ask mentors and peers about appropriate protocols (Ashford and Nurmohamed 2012). Studying the cyclical process of socialization is methodologically challenging. Much of the evidence for socialization processes are correlational, although recent reviews and critiques advocate for the use of more sophisticated methodological techniques, including gene-environment models and longitudinal studies analyzed with techniques such as

structural equation models and latent growth models (Paschall and Mastergeorge 2016).

Conclusion

Socialization is central to the study of psychology in that the processes through which individuals gain and evaluate knowledge about social groups are essential to our ability to function as groups. Socialization is thus a broad construct, encompassing our navigation of different group contexts throughout the lifetime, and interaction with many different sources of information about these groups, including families, peers, schools, organizations, and media. Research on socialization has moved beyond considering an individual as the passive recipient of information from these various socializing agents. Instead, current approaches to the study of socialization include the active role of the individual and their ability to, in return, influence socializing agents. Current research on the study of socialization has also evolved to allow for a diverse set of processes through which information is transmitted, including classic examples such as modeling and incentives as well as a role for evolutionary and biological perspectives.

Cross-References

- ▶ Culture
- ▶ Parental Influence on Personality Development (Adler)

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Socially Aversive

- ▶ [Dark Tetrad of Personality, The](#)

Socially Aversive Personality

- ▶ [Antisocial Personality Traits](#)

Socially Desirable Responding

- ▶ [Faking Behavior](#)

Socially Desirable Responding on Self-Reports

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Synonyms

[Lie scale](#); [Self-enhancement](#); [Social desirability response style](#)

Definitions

Whenever individual differences are measured with self-reports, concerns arise over *response biases*: They are habitual tendencies to respond to questions based on item properties such as keying direction and the desirability of the response options. Such tendencies may interfere with the ability of self-reports to capture the intended individual differences. *Validity scales* are available to measure such response biases as acquiescent responding, extreme responding, and random responding. But for various reasons, the greatest concern has been voiced over individual differences in *socially desirable responding* (SDR), that is, stylistic differences in the tendency to present oneself in a positive light.

Overview

Socially Desirable Responding (SDR) may occur as a response style, that is, a general tendency to give desirable answers on all self-reports. This consistent behavior may or may not have implications for broader individual difference variables (see below). Alternatively, SDR may appear as a response set, that is, a temporary motivation to appear positive. For example, applicants for the same job may differ in how desperate they are: Some may have been unemployed for 6 months whereas others may already have another job.

Problem with Confounding

The central concern is that SDR may act as a confound in a variety of self-reports. Individuals who are responding desirably on an SDR scale are likely to be responding desirably on other measures included in the same administration package. If a self-report variable is found to correlate with SDR, then two possible interpretations become available. If the researcher cannot distinguish between a personality variable (content) and SDR (a style), then, the whole assessment endeavor seems compromised. Indeed, some researchers have been known to abandon a self-report measure at the appearance of this threat to validity.

In self-reports of agreeableness, for example, it may be difficult to determine whether a high score is capturing agreeableness or the tendency to give desirable answers. If the latter predominates, one must interpret the personality scores quite differently. Indeed, the implication is that high scorers are fakers – a quality far different from their claim to possess desirable personalities (Graziano and Tobin 2002).

On the other hand, many assessment specialists argue that concerns over SDR are overblown. Personality researchers, for example, point out that the validity of many instruments (Big Five measures, for example) is well-established – despite substantial correlations with SDR scales. Moreover, the validity of those instruments changes little when SDR is controlled.

Evolution of Measurement

Concerns over socially desirable responding (SDR) were raised as soon as personality scales began to appear. The importance and complexity of this notion was highlighted during the 1940s with inclusion of validity scales in the MMPI. Indeed, their scoring system automatically used SDR scales to correct scores on psychopathology scales (Meehl and Hathaway 1946). Even in early versions, Hans Eysenck included a Lie scale in his influential personality inventories (e.g., Eysenck and Eysenck 1975). The most extreme allegations

about SDR appeared during the 1950s where Allen Edwards (1957) and others went so far as to allege that the variance in self-reports of personality and psychopathology was almost entirely based on respondents' differential concern with social desirability.

It wasn't until the 1960s that the popular Marlowe-Crowne scale was developed and popularized by Douglas Crowne and David Marlowe (1960). Its wide acceptance was based on the fact that its construct validity was supported by a thorough body of research (Crowne and Marlowe 1964). However, the fact that Marlowe-Crowne scores did not converge with scores on other SDR scales raised much confusion (Wiggins 1973). Eventually consensus was reached when replicable structural analyses settled on two broad factors. Paulhus (1984) interpreted the two factors as *self-deception*, an unconscious self-favorability, and *impression management*, the intentional distortion of self-descriptions. The corresponding subscales of the Balanced Inventory of Desirable Responding (Paulhus 1991) have become the standard method for separating these two forms of SDR.

Content Versus Style

The value of SDR measures rests on the answer to a pivotal question: Can SDR measures distinguish content (true personality) from style (self-report bias)? Although some respondents score high on SDR because they are exaggerating their positive traits, other respondents may score high because they are honestly reporting possession of those positive traits (McCrae and Costa 1983). The former interpretation has led many researchers to assume that correlations with SDR scales invalidate personality measures. After all, it would be perilous for an employer to select personnel who show positive personality scores if those scores actually indicate a tendency to embellish.

Note that there is little evidence that SDR scales tap distinct personality variables. They never appear in factor analyses of personality, no matter how comprehensive. When they do appear

it is at the meta-analytic level in two factor summaries of personality (Paulhus and Trapnell 2008). That pattern indicates that SDR operates at a broader level than common personality variables such as those composing the MMPI, Big Five, or 16PF.

Control of SDR

The impact of SDR can be minimized before it can occur by appropriate item design: Examples include neutral wording of item statements and use of forced-choice format where the desirability of the two responses is pre-equated. Where possible, test administration emphasizing confidentiality and anonymity can also reduce SDR. Methods that attempt to control SDR after it occurs are not recommended: Especially inappropriate is partialing SDR out of a personality variable. Indeed, several lines of research have shown that attempts to remove SDR from personality measures do not improve (and may actually reduce) the validity of these constructs: Metaphorically, this removal of overlap may “throw out the baby with the bathwater.”

The notion of using a within-subject design to capture SDR has been around for some time. Modern multivariate techniques have provided an alternative to crude partialing versions. Instead, the role of SDR in self-reports can now be understood in structural equation models using a hybrid of within- and between-subject analyses (Ziegler and Buehner 2009).

Behavioral Methods

To avoid the inevitable confound of evaluation and personality content, several alternative measures have operationalized SDR with objective indicators. Among these are Ronald Holden’s laboratory method of comparing response times to faked and honest instructions (e.g., Holden and Kroner 1992). People tend to respond more slowly when told to fake a response in the opposite direction to their preference. The scientific advantage of this technique is the concrete nature

of reaction times. The downside is the impracticality of collecting response times in most assessment situations.

Another behavioral method is Paulhus’s overclaiming technique, where respondents are given the opportunity to rate their familiarity with a variety of items, some of which do not exist (e.g., Paulhus et al. 2003). The tendency to claim foils can be considered a concrete indicator of SDR. Using signal detection methods to score familiarity ratings, the overclaiming method permits the simultaneous scoring of accuracy and bias. It has been successfully applied to such domains as educational assessment, consumer knowledge, and cross-cultural differences. Because they are concrete behaviors, this method is not open to the same criticism as standard social desirability scales. Moreover, the measure can be included in questionnaire packages and scored without any external criterion.

New Directions

Instead of the original interpretation (self-deception and impression management), evidence has accumulated that the two large SDR factors differ with respect to content (Paulhus 2002). The distinction maps on to the two fundamental personality constellations commonly labeled *agency* and *communion*: Agency refers to achievement striving and differentiating oneself from others whereas communion refers to an integration with and concern for others (Bakan 1966). Holden and Fekken (1989) labeled the two factors *Self Capability* and *Interpersonal Sensitivity* – virtual synonyms for agency and communion. Their corresponding evaluative biases have been labeled egoistic versus moralistic (Vecchione and Alessandri 2013). Corresponding measures of agentic and communal impression management are now available (Blasberg et al. 2014).

Controversies Continue

Despite 60 years of research, many researchers remain concerned about the impact of SDR on

self-report measures of personality and psychopathology. Its implications are especially important in the fields of personnel selection and clinical diagnosis. The choice to interpret self-report scores as indicating personality rather than SDR can have far-reaching consequences. One recent example is the dramatically different interpretations of the Impression Management (IM) scale found in two recent studies. Whereas Uziel (2014) found evidence for prosocial attributes, Davis et al. (2012) found antisocial correlates of high IM scores. The diversity of current perspectives is exemplified in the edited volume by Ziegler et al. (2012).

It is important to note that most SDR scales were designed to capture only positive elements of impression management. The standard selection methodology (i.e., fake good) depends solely on upward distortion. Hence items with low base-rates under honest response conditions are more likely to be selected (Wiggins 1959). Low scores on SDR scales are assumed to indicate a respondent free of bias. A qualitatively different type of validity scale is required to tap negative response biases such as *malingering* (see Rogers et al. 1991).

Conclusions

A continuing concern with self-report measures is a response bias called *socially desirable responding* (SDR), that is, differences in people's tendency to exaggerate the positivity of their characteristics. Of the roster of response biases, SDR has drawn the most attention because it confounds the interpretation of self-reported personality, psychopathology, attitudes, values, etc. A variety of techniques have been developed to address these concerns. Recommended are those designed to minimize SDR before it can occur. Post hoc attempts to control SDR should be discouraged, for example, partialing SDR from scores on other individual difference variables.

Instead, correlations with personality scales should be viewed as informational rather than evidence of contamination. Because SDR measures differ in their emphasis on *agentic*

desirability versus *communal desirability*, the pattern of correlations can be informative with regard to evaluative implications of a self-report variable. Rather than evidence for corrupted measurement, correlations with SDR may actually help clarify the psychological processes underlying self-reports.

Cross-References

- ▶ [Faking](#)
- ▶ [Impression Management](#)

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Socially Undesirable Personality

► Antisocial Personality Traits

Socioanalytic Perspective

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The socioanalytic theory of personality is a perspective on human nature that combines insights about human evolution (Darwin), unconscious motivation (Freud), and the dynamics of social interaction (Mead) Hogan (1982). This chapter presents a sketch of our basic assumptions and a brief overview of supporting empirical evidence. See Hogan and Blickle (2013, 2017) for a more comprehensive discussion.

About 1,000,000 years of human experience provide the background for understanding human nature. A study of human origins suggests three important generalizations (Darwin 1871; Eibl-Eibesfeldt 1989; Mead 1934). First, because people always live in groups, they are inherently social and, at a deep and often unconscious level, need companionship and social acceptance – and dread rejection and isolation. This reflects the fact that group living is adaptive – solitary humans don’t live very long. Second, every human group has a status hierarchy; this suggests that, at a deep and often unconscious level, people need status – because status permits better choices in mates, food, and living circumstances – and fear the loss of status. Finally, anthropology tells us that religion is an ancient practice and a cultural universal (Hogan and Bond 2009). This suggests that people need predictability – to understand how the world works and their place in it – and fear uncertainty and chaos. The need for predictability leads to religion, culture, and technology and has obvious evolutionary significance.

Basic Motives

The foregoing analysis suggests that, at a deep and often unconscious level, people need (1) attention and approval, (2) status and power, and (3) predictability and order in their lives. These are the

universal themes in human affairs (cf. Buss 2015). Over time, people with more social support, status, and control in their lives had a reproductive advantage – they left more offspring behind.

Digman (1997) collected personality trait ratings across 14 studies – five based on children and adolescents, nine on adults. Seven of the studies used observer ratings; seven used self-ratings. Digman found, in all 14 studies, two higher-order factors representing the needs to get along and get ahead.

The biological need for predictability also is well established (Hebb and Thompson 1954; Pavlov 1927). Culture provides rules that make interaction predictable and meaningful (Hogan and Bond 2009). Jahoda (1981) proposed that employment provides structure and meaning and therefore promotes psychological well-being in everyday life. Barrick et al. (2013) also propose that the need for meaning is an important (unconscious) motive at work.

In sum, at a deep and often unconscious level, people need attention and approval, status and control of resources, and structure and predictability. These needs are met during social interaction – the unique features of human evolution compel people to interact. As Goffman (1959) noted, interaction is where the action is. But because human nature is rooted in biology, individual differences are inevitable. Thus, some people need more social acceptance than others (e.g., actors versus anchorites), some people need more status than others (e.g., the competitive versus the complacent), and some people need more predictability and meaning than others (e.g., the religious orthodox versus nonobservant). Finally, some people are more successful than others in attaining these goals, and this variability is what socioanalytic theory tries to explain.

Identity and Reputation

Socioanalytic theory defines the structure of personality in terms of identity and reputation. Our identity guides our behavior during social interaction. Other people evaluate that behavior and their combined evaluations create our reputation.

Identities are personality from the perspective of the actor – they represent the person that we think we are. Reputations, on the other hand, are personality from the perspective of the observer – they reflect the person whom others think we are. To repeat, there is the person that you know (identity), and there is the person that others know (reputation). The two are not highly correlated, and successful people pay close attention to their reputations.

Where do identities come from? Other people mostly teach us who we are, but we also choose our identities from the menus that are available in our cultures. The menu is usually found in movies, novels, TV shows, etc. But the larger point is that our identities – the persons we think we are – come from menus provided by society. We may reject the identities that are available in our culture, but we will have to find substitutes before we can interact with others.

Reputations are important for five reasons. First, they are stable over time – different observers tend to agree about a person's reputation – which means that reputations can be studied objectively. In contrast, identities are less stable and much harder to study. Second, most people care (or should care) about their reputations. Third, because the best predictor of future behavior is past behavior, and because reputations reflect a person's past behavior, reputations are the best data source we have for predicting peoples' performance, e.g., academic achievement, career choice, occupational success, etc. Fourth, we have a well-defined taxonomy of reputations: it is the Five-Factor Model (FFM; Wiggins 1996) which tells us what we think about and how we describe other people in terms of five categories or dimensions – self-confidence, social presence, likeability, conscientiousness, and curiosity/creativity. Finally, our reputations reflect the amount of social acceptance and status we have in our communities. Successful people know how to manage their reputations, and they manage them during social interaction all the time (Goffman 1959).

Empirical data strongly support the view that observer ratings of personality (reputation) are significantly more valid than self-reports of

personality (identity) in predicting social behavior. Kluemper et al. (2015) report that observer ratings of the FFM add significant validity to self-reports when predicting workplace deviance. Kholin et al. (2016) found that observer ratings of students' learning approach predicted academic performance in mathematics, informatics, natural sciences, and technology much better than self-ratings. Oh et al. (2011) compared the validity of FFM traits based on self-ratings and other ratings and found that observer ratings are significantly more valid than self-ratings. In addition, observer ratings add incremental validity over self-reports of the FFM dimensions in predicting performance, but the reverse is not true. Connelly and Ones (2010) also studied the links between observer ratings of actors' personalities and ratings for job performance, and their results strongly support those reported by Oh et al. (2011).

Social Skill

Social skill translates identity into reputation. Social skill can be defined as competent impression management (Hogan and Shelton 1998) – the ability to control the impressions that others form of us. Social skill has the following features: sensitivity, adaptability, consistency of moods, and being able to listen and communicate with a variety of audiences. People with social skill are able to restrain, calibrate, and adjust their behavior in different and/or changing social contexts. This allows them to gain the trust of those with whom they interact and perhaps exercise influence.

Empirical research shows that successful people use their superior social skills to manage their reputations. For example, peer ratings of aptitude predict the academic performance of university students with good social skills ($\beta = 0.43$) but don't predict the performance of students with low social skills ($\beta = 0.02$) (Kholin et al. 2016). Career success depends significantly on peoples' reputation which depends on the manner in which they present themselves to

others. Successful people are mindful of these issues, and several empirical studies strongly support this proposition. High scores on a measure of social skill and a measure of wanting to get along predicted supervisors' ratings of an employee's cooperation, job performance, and promotion potential (Blickle et al. 2011a). High scores on these two measures also predicted higher income and marketability of new employees (Blickle et al. 2011b). Finally, in a sample of 510 school headmasters, high scores on a measure of social skill and a measure of wanting to get ahead predicted success in leadership as rated by three to four teachers ($N = 1881$) who reported to these headmasters (Ewen et al. 2014).

Finally, many studies show that social skill moderates the validity of measures of agreeableness (Blickle et al. 2008), conscientiousness (Witt and Ferris 2003), extraversion (Blickle et al. 2010), openness to experience (Blickle et al. 2013), honesty-humility (Diekmann et al. 2015), trait sincerity (Meurs et al. 2011), and proactive personality (Sun and van Emmerik 2015).

It is useful to distinguish between "bright side" and "dark side" behavior (Hogan and Hogan 2001). Bright side behavior is what we see when people are behaving themselves; the FFM is a taxonomy of bright side behavior. In contrast, dark side behavior (e.g., narcissism, psychopathy) emerges when people let down their guard – when they are angry, tired, or "just being themselves" and usually when they are dealing with subordinates or people with less power than them. Good social skills can compensate for dark side personality tendencies. Recent research supports this assumption (Owens et al. 2015; Schütte et al. 2015).

To repeat, we believe the structure of personality should be defined in terms of identity (who we think we are), reputation (who others think we are), and social skill, which translates identity into reputation. Mead (1934) said that role-taking is the central factor underlying social interaction; following Mead, we believe that social skill is the "g" factor promoting or inhibiting the achievement of one's goals in life.

The Unconscious

Freud (1913) argued that we are typically unaware of the reasons for our actions, and his view is supported by modern research in cognitive psychology. We believe there are at least *four* sources of unconscious influence on our behavior.

The *first* set of unconscious influences comes from biology. As noted above, we need attention and approval, status and control of resources, and order and predictability. Much everyday behavior concerns pursuing these needs, but we are rarely conscious of this fact. Our natural egocentrism creates a *second* set of unconscious influences. That is, most of us tend to ignore what others expect during interaction. For example, couples in close relationships are unable to accurately describe how their partners perceive them. Although we constantly interact with others, these interactions are based on superficial mutual understanding. This raises the question of how social interaction is even possible. One answer is that the rules governing interaction are prewired in our nervous systems, so that our responses to others don't depend on understanding what they expect. Human social interaction seems to resemble the mating dance of dragonflies, wherein gestures, colors, smells, and postures trigger corresponding gestures, postures, and behavior (Eibl-Eibesfeldt 1989). The *third* set of unconscious influences are the values, customs, and norms of our culture that we assume are true and that we rarely question or challenge. These include rules about what we should eat, how we should dress, how women are treated, how members of minority groups should be treated, and how our lifestyle is superior to that of others.

Finally, our brains evolved so as to handle routine activities with automatic processes and solve novel problems with conscious attention (Johnson and Hogan 2006). Routine behaviors demand far less attention than new skills, so human brains are designed for a high level of automatic activity, and these automatic mental routines give regularity and consistency to

human behavior. When people learn new tasks, their performance is typically clumsy. With practice their performance becomes automatic, consistent, and largely unconscious.

Summary and Conclusion

Like psychoanalysis – and unlike much academic psychology – socioanalytic theory has an applied agenda: we want to help people improve their lives. Current personality research focuses on traits, and we think this is a mistake. We don't think people have traits; we think traits exist in the minds of observers; other people use trait terms to describe us. In contrast with trait theory, we think people have identities which create agendas, goals, and intentions and that their behavior reflects these agendas. Other people watch us and then assign trait labels to our behavior so that they can predict our future behavior. Thus, traits exist in the minds of observers and in the observed behavior of actors. Prediction is not explanation; we use reputation to predict important life outcomes, usually in the form of career success (or failure), and we use identity to explain why people behave as they do. Finally, socioanalytic theory encourages people to improve their lives by improving their social skills.

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Sociobiology

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Synonyms

[Evolutionary psychology](#)

Definition

Sociobiology is the study of the extent to which natural selection might affect population-level social and cultural norms and behaviors.

Introduction

In 1859, Darwin published his theory of evolution that described how inherited changes in living forms (morphology) and function (physiology) provide either advantages or disadvantages for the reproductive success of individuals. In turn, individual forms and functions affect behaviors that lead to complex social structures and cultures that are, in this sense, inherited.

Since ants do not teach their young ones how to form and maintain social structure, we may justifiably deduce that their social structure is inherited. Out of his study of ants, entomologist Edward O. Wilson conceived the idea that non-insect species might also transfer highly developed social organization and divisions of labor to some degree. To what degree might mammals, including humans, also inherit sociability, social structures, and the foundation of culture?

A study of social heritability requires at least the disciplines of biology and psychology to disentangle the contributions of nature versus nurture to social organization. Over the nature-nurture tension, scientists and scholars argued and condemned one another throughout the 1960s. Finally, in 1975, a new field of sociobiology was born with the publication of Wilson's book, *Sociobiology: The New Synthesis* (Wilson 1975).

When published, *Sociobiology* immediately unleashed controversy. It seemed to suggest social determinism – that humans were born into fixed social roles. Sociobiology was also blamed for justifying eugenics, denying human social mobility, and diminishing the role of nurture against a more powerful nature in developmental adaptation and evolution. Marxists condemned sociobiology as maintaining the status quo of societal inequality (Alcock 2001). Also paradoxically, sociobiology was seen to support Marxist collectivism over personal expression.

The cultural milieu of 1970s America was particularly inhospitable to sociobiology. After three decades of the Vietnam War, mistrust of institutions was at an all-time high. Baby boomers, the largest and best-educated generation in US history, were busy exploring vitalism, essentialism, human potential, self-expression, and personal wholeness. Personal and professional attacks on Wilson escalated from all quarters, including from fellow evolutionist Stephen Jay Gould. The controversies from the 1960's and 1970's continue to cast a shadow for sociobiology today. Even so, heritable behavior in social structure are universally accepted as being key features of evolutionary theory.

The Problem of Altruism

By 1960, Darwin's theory of evolution had been around for a century, but a science of evolution – data gathered to test hypotheses – was still non-existent. As a result, descriptions and predictions remained matters of belief and opinion.

One seeming invalidating threat to the theory was the phenomenon of altruism. A genetic-linked altruism – members of a species sacrificing longevity and reproductive opportunities for the benefit of the whole species – should be “bred out” of the gene pool within only a few generations, according to the strictest interpretation of natural selection. One or few individuals caring for non-familial members of the same species directly contradicts natural selection through survival of the fittest.

Darwin himself had once planted the seeds of his theory's destruction by conceding that

widespread and persistent altruism would disprove evolution. By 1962, well-respected biologists V.C. Wynne-Edwards (1962) and George Williams (1966) agreed that the theory of evolution was either completely wrong or required serious revision. Most thought leaders of the time fell in line with them.

by granting advantages in the competition for resources and redirect predator behavior, social standing, and survival strategies.

The Tinbergen Framework

In 1963, animal behavior scientist (ethologist) Niko Tinbergen published a framework for studying behavior (Tinbergen 1963) by updating Aristotle’s fourth-century BCE four causes of being: material, formal, efficient, and final. Tinbergen’s framework identified the gaps in evolutionary science.

Sociobiology Completed the Tinbergen Model

Altruism was thus not an objection to evolutionary theory but rather was missing from the complete model required for valid scientific testing (Popper 1959/2002) of complex biological systems (Menke and Skrepnek 2009).

Tinbergen updated the Aristotelean classification scheme as ontogeny, mechanism, phylogeny, and adaptive value, respectively (see Fig. 1). Ontogeny and mechanism are proximate or structural adaptations. Examples include length of gestation time, degree of fetal development at birth, and opposable thumbs. Structural changes determine limits and opportunities of behaviors and are under the purview of biological science.

Actually, altruism fit the previously empty adaptive value quadrant to complete Tinbergen’s matrix. Altruism protects the survival of the species at the expense of resources that might maximize individual survival. Today, the role of altruism in survival of the species seems inevitable and obvious. Yet, before 1975, altruism threatened to invalidate one of humankind’s greatest intellectual accomplishments. Wilson’s book explained that altruism had a fundamental adaptive role in species survival. From that foundation, evolutionary theory could flourish as a set of testable notions. Wilson had laid the foundation for the first book on evolutionary psychology (Symons 1979), followed in 1992 by *The Adapted Mind* (Cosmides and Tooby 1992) that exposed the deep flaws in social science methodology’s emphasis on nurture over nature.

By contrast, phylogeny and adaptive value are ultimate questions – end results of the proximate causes. Ultimate questions refer to the application of structure, not their relative importance. For example, morphological change of a bird beak that enhances feeding will disrupt social structure

	Contemporary environment: What is the environmental influence today?	Chronicle: How did the species get here?
Proximate questions of Structure	Mechanism	Ontogeny
Ultimate questions of Function	Adaptive value (Sociobiology)	Phylogeny

Sociobiology, Fig. 1 Tinbergen’s schema for studying animal behavior

Conclusion

Sociobiology eventually incorporated the fields of biology, genetics, and neurobiology, alongside the original comparative and physiological psychologies (Alcock 2001). Indeed, E. O. Wilson predicted that the study of behavior would one day bridge cellular and population biology. After a rough start, sociobiology succeeded in forwarding the genetic bases of social and cultural behavior (Alcock 2001).

Cross-References

- ▶ Altruism
- ▶ Evolutionary Perspective
- ▶ Social Selection for Human Altruism

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Socioeconomic Status Differences

- ▶ Social Class Differences

Sociometer Theory

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Definition

Sociometer theory, one of the prominent theories about the nature and function of self-esteem, argues that self-esteem monitors the degree of social acceptance that one enjoys from one's social circle and alerts the self to any threats to belonging that may arise.

Introduction

Mark Leary and colleagues developed sociometer theory to explain the nature and function of the self-esteem system. As outlined in Leary and colleagues' initial theoretical and empirical papers on the subject (Leary and Downs 1995; Leary et al. 1995), ancestral human beings faced an important adaptive dilemma: How to ensure that they attain and maintain the high-quality social bonds that are necessary for survival? According to sociometer theory, the answer to this evolutionary dilemma was the development of the self-esteem system. Self-esteem – or one's sense of worth or value as a person – monitors the degree of social acceptance that one enjoys from one's social circle and alerts the self to any threats to belonging that may arise. In the decades since its original publication, sociometer theory has emerged as one of the most well-known theories of self-esteem. In the passages to come, we will describe sociometer theory in

detail, discuss the empirical support for the theory, and highlight the ways in which the theory has been refined since its original inception.

The Sociometer as an Adaptive Function

Belonging to social groups is a fundamental human need (Baumeister and Leary 1995). Indeed, as social animals, group membership was necessary for ancestral humans' very survival. People who were valued and accepted by others in their social group were more likely to be protected in times of danger and helped in times of distress. Moreover, those who were accepted by others would have been granted opportunities to mate and pass on their genes to the next generation. Given the importance of acceptance for survival and reproduction, it is highly probable that natural selection shaped human psychology to include a system to monitor the environment for cues concerning one's belonging and to alert the individual to any threats to that belonging. Such signals could then motivate the individual to engage in behavior aimed at achieving acceptance and avoiding rejection. According to sociometer theory, the self-esteem system serves exactly these functions (Leary and Baumeister 2000; Leary and Downs 1995; Leary et al. 1995).

The sociometer model of self-esteem includes both a state and a global component (Leary 2004). State self-esteem reflects one's in-the-moment feelings of belongingness, providing real-time feedback concerning the quality of one's social bonds in the form of increases or decreases in state self-esteem and self-directed affect (i.e., feeling good or bad *about oneself*). The sociometer definition of global self-esteem is similarly interpersonal, positing that over time, specific experiences of acceptance and rejection are internalized to form a relatively stable, and global, view of one's worth as a social partner. Individuals with higher self-esteem feel that they were, are, and will be valued by others, whereas individuals with lower self-esteem doubt their value as relational partners and project these doubts onto future relationships. Whereas state self-esteem is highly reactive to social

experiences, global self-esteem is more stable. Although it can change in response to important interpersonal experiences, in general, global self-esteem is remarkably stable across the lifespan (Trzesniewski et al. 2003).

When sociometer theory emerged in the late 1990s, it reflected a strong departure from conceptions of self-esteem at the time (for a discussion, see Leary 2005). Then, dominant perspectives on self-esteem included models derived from self-determination theory (Deci and Ryan 1995), which proposed that high self-esteem should be intrinsic and independent of one's social experiences, and terror management theory (Pyszczynski et al. 1997), which proposed that people maintained high self-esteem in an attempt to stave off the fear of death. But perhaps the most dominant perspective presumed that people possessed a self-esteem motive that drove them to seek and maintain high self-esteem simply because having high self-esteem was an enjoyable experience see Blaine & Crocker, 1993. After all, it feels good to feel good about oneself. Sociometer theory, however, suggested that this conception of self-esteem mistakenly focussed on the affective signals generated by the self-esteem system, and by doing so, failed to ask why such affective signals existed in the first place. By asking this question, sociometer theory identified a new drive for the self-esteem system, specifically, the need to belong. The ultimate goal of the system, then, was not to maintain high self-esteem per se but to maintain high-quality social bonds. When the desired level of belonging was obtained, then self-esteem would remain comfortably high.

But what type of empirical evidence is needed to support the sociometer model of self-esteem? Sociometer theory generates three main hypotheses concerning the nature and function of self-esteem. First, if the self-esteem system is a sociometer, then state self-esteem should fluctuate in response to experiences of social acceptance and rejection, and global self-esteem should be responsive to repeated social experiences in the longer term. Second, if global self-esteem is a gauge reflecting an overall summary of one's social worth, then global self-esteem should be

strongly correlated with people's perceptions of their social worth. Third, if the self-esteem system functions to help people maintain high-quality social bonds, then drops in state self-esteem should lead to behavior aimed at repairing a threatened social bond or avoiding the bond altogether if repair is impossible, and global self-esteem should regulate people's chronic social strategies. We describe the evidence supporting each of these hypotheses next.

Evidence Supporting Sociometer Theory

Self-esteem is responsive to social acceptance and rejection. The most well-validated sociometer hypothesis concerns the responsiveness of state self-esteem to social experiences of acceptance and rejection. Research using a wide range of methods has consistently demonstrated that acceptance causes increases in state self-esteem whereas rejection causes decreases in self-esteem. These effects emerge when the cues concerning acceptance or rejection are received in the lab in the form of false feedback, when participants imagine being accepted or rejected, and when participants recall a past experience of acceptance or rejection (e.g., Leary et al. 1995; Stinson et al. 2010). The functioning of this signaling component of the self-esteem system appears to operate largely outside of conscious awareness or control. For example, explicit rejection feedback causes decreased state self-esteem even for participants who claim that their self-esteem is not influenced by the acceptance of others, (Leary et al. 2003). One criticism of this body of evidence argues that these effects will not generalize beyond the lab. In much of the existing research, participants receive explicit acceptance and rejection feedback in an artificial laboratory setting, a context that is quite different from the relatively ambiguous and often nonverbal cues that people receive concerning their social worth in daily life. However, recent research utilizing more naturalistic methods demonstrates that even when feedback is less explicit, nonverbal, or takes place in the real-world, social inclusion affects state self-esteem.

For example, Lamer et al. (2015) observed that viewing angry expressions directed towards oneself (a nonverbal indicator of rejection) caused reductions in state self-esteem. Moreover, longitudinal studies have demonstrated that daily fluctuations in social acceptance and rejection predict corresponding daily changes in state self-esteem (Denissen et al. 2008). Furthermore, although most evidence to support the responsiveness of the self-esteem system to social acceptance and rejection concerns state self-esteem, numerous longitudinal studies have shown that global self-esteem also changes over time in response to repeated experiences of acceptance and rejection (Denissen et al. 2008; Stinson et al. 2008).

Another interesting insight into the functioning of the self-esteem system that emerged from this empirical literature concerns the differential responsiveness of the system to acceptance and rejection. In general, the self-esteem system is more responsive to rejection than acceptance (Leary 2005). In other words, rejection decreases self-esteem more than acceptance increases self-esteem. Leary reasoned that this seems sensible on two fronts. First, most social norms dictate acceptance, and thus the relative frequency of acceptance feedback may desensitize the self-esteem system to such cues. Second, most monitoring systems, like the pain and hunger systems, are designed to signal when a problem occurs. Similarly, the self-esteem system is highly reactive to rejection because it is rejection, not acceptance, that endangers the individual. Moreover, global self-esteem appears to moderate the sensitivity of the self-esteem system to detecting, and reacting to, threats to belonging (Leary 2004). People with chronically lower global self-esteem are especially hypervigilant in detecting rejection and more reactive when rejection occurs, whereas people with higher self-esteem are relatively immune to all but the most obvious signs of rejection.

Overall, the body of evidence supports sociometer theory by demonstrating that self-esteem is responsive to acceptance and rejection experiences in the moment and over time and across a variety of laboratory and naturalistic settings.

Global self-esteem is associated with perceptions of social worth. If it is true that self-esteem is a sociometer indexing people's social worth, then self-esteem should be correlated with people's perceptions of their social worth. Once again, ample evidence supports this hypothesis. For example, Anthony et al. (2007a) demonstrated that self-esteem is most closely related to self-perceptions of traits that people believe will garner acceptance from others, like attractiveness and popularity, but is less strongly related to traits that are more socially neutral, like tidiness and creativity. This association is thought to exist because global self-esteem influences self-views in a top-down manner, exerting its strongest influence on traits that are most closely aligned with the belongingness motive that drives the self-esteem system. The attunement of self-esteem to socially valued traits is so specific that self-esteem even tracks which traits are most important to social success in a given social role (Anthony et al. 2007a). For example, women are most socially valued when they possess communal qualities like warmth and kindness, whereas such traits are more socially neutral for men. Reflecting these gender roles, women's self-esteem is moderately correlated with self-views of communal qualities, whereas men's self-esteem is unrelated to self-views of such traits. Similarly, MacDonald et al. (2003) asked participants to report their self-evaluations for several traits and also to report whether people generally accepted others who possessed those same traits. They found that possessing traits believed to be valuable for social acceptance was also linked to having higher self-esteem. Taken together, this evidence supports the sociometer hypothesis that the self-esteem system tracks social worth.

The self-esteem system regulates responses to acceptance and rejection. According to sociometer theory, experiencing a drop in self-esteem should motivate the individual to engage in behavior that will reestablish acceptance or otherwise minimize the threat to belonging. Generally speaking, research supports the claim that people do indeed alter their social motivation and behavior in response to threats to

acceptance. However, their behavioral response depends on whether they are responding to the person who rejected them or to a potentially new social partner. For example, threats to belonging lead individuals to report a greater desire to interact with novel others by making new friends and also motivates them to form more positive impressions of novel interaction partners (Maner et al. 2007). Importantly, this heightened prosocial motivation is not directed towards the social partners who were the source of the original belongingness threat, but rather, it is directed towards novel social partners who could potentially salve the threatened need to belong. So how do people react to social partners who have rejected or ostracized them? Typically, people react with aggression (e.g., Twenge et al. 2001). Such a reaction may reflect an attempt to distance from a threatening social bond and thereby minimize additional distress. Thus, people appear to self-protectively redirect their affiliation motives away from hurtful bonds and towards novel bonds when they experience a threat to belonging.

People's responses to rejection also appear to be domain-specific, such that they do not necessarily generalize beyond the social context in which the initial rejection occurred. For example, people who have been romantically rejected experience a decrease in their state self-esteem, which in turn dampens their mating aspirations (Kavanagh et al. 2010). However, such effects did not generalize to their other self-evaluations or their friendship aspirations, suggesting that the regulatory function of the self-esteem system is finely tuned and discriminating.

Global self-esteem also directs motivational and behavioral reactions to social situations that involve the possibility of rejection, as when meeting new people or asking a friend to help you move. In these risky situations, people who have had relatively consistent histories of rejection – and thus have lower global self-esteem – often respond with a self-protective motivational strategy aimed at minimizing the pain they would feel should rejection occur (Murray et al. 2006). People who have had

relatively consistent histories of acceptance – and thus have higher trait self-esteem – approach such risky situations with a promotive motivational strategy aimed at connecting with others. For example, in a risky relationship-initiation context, lower self-esteem people engage in cautious underdetection of acceptance whereas those with higher self-esteem engage in optimistic over-detection of acceptance (Cameron et al. 2010). Moreover, these strategies influence social decision-making (Anthony et al. 2007b). People with lower self-esteem are only willing to join new groups when acceptance is guaranteed, whereas the likelihood of acceptance does not influence higher self-esteem people's decision-making. Additionally, the differential approaches of those lower and higher in self-esteem in response to social risk influence actual behavior. In risky and threatening social contexts, people with lower self-esteem exhibit fewer warm behaviors and more cold and rejecting behaviors towards others whereas those with higher self-esteem engage in warmer behaviors more likely to achieve acceptance (Cameron et al. 2010; Stinson et al. 2015). Even in ongoing romantic relationships, the risk of rejection induces lower self-esteem individuals to self-protectively view their partners more negatively than higher self-esteem individuals (e.g., Murray et al. 2002). These motivational strategies also reach beyond the interpersonal domain. For example, after being reminded of social risk, lower self-esteem individuals are less likely than those with higher self-esteem to make riskier decisions in non-romantic domains, such as financial investments (Cavallo et al. 2009). In sum, the regulatory function of self-esteem is far reaching, influencing not only interactions with novel others but also with committed relationship partners, and influencing a wide range of perceptions, decisions, and interpersonal behavior.

Conclusion

Over the last 20 years, sociometer theory has become a widely known and important theory of

self-esteem, in part because of its theoretical parsimony and utility, but also because of the large body of literature supporting its fundamental tenets: (1) Self-esteem is responsive to social acceptance and rejection; (2) self-esteem is linked to perceptions of social worth; and (3) the self-esteem system regulates responses to social acceptance and rejection.

Cross-References

- ▶ [Contingent Self-Esteem](#)
- ▶ [Need to Belong](#)
- ▶ [Self-Esteem](#)
- ▶ [Self-Esteem and Belongingness](#)
- ▶ [Self-Esteem and Security](#)
- ▶ [Self-Esteem and Social Status](#)

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Sociosexual Orientation

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Synonyms

[Promiscuity](#); [Sexual permissiveness](#); [Sociosexuality](#)

Definition

Sociosexual orientation reflects individual differences in sexual permissiveness or engagement in uncommitted sexual relations.

Introduction

Sociosexual orientation – or sociosexuality – reflects individual differences in sexual permissiveness or willingness to engage in uncommitted sexual relations (Simpson and Gangestad 1991). Although sociosexuality is considered a trait measure that is continuous, people are often

described categorically as having *restricted* (low) or *unrestricted* (high) sociosexual orientations. People with *unrestricted* sociosexual orientations may believe that sex without love or emotional ties is acceptable, whereas people with *restricted* sociosexual orientations believe that love, commitment, and emotional closeness are prerequisites for sexual activity. More sexually unrestricted people tend to have greater numbers of sexual partners, casual sexual encounters (hook-ups, one-night-stands), and more positive attitudes toward sex without commitment.

Simpson and Gangestad (1991) developed the Sociosexual Orientation Inventory (SOI) to measure individual differences in willingness to engage in casual, uncommitted sexual relationships. Although the SOI has gained considerable popularity for decades, it was often criticized for assuming a unidimensional structure and having low internal consistency (Penke and Asendorpf 2008; Webster and Bryan 2007). For example, Penke and Asendorpf (2008) argued that sociosexual orientation is not a unidimensional construct but rather a multidimensional one that consists of three related-but-distinct sociosexual facets: attitudes, behaviors, and desires; to this end, they developed the Revised Sociosexual Orientation Inventory (SOI-R). Over the last decade, the SOI-R's multifaceted approach has become widely adopted by researchers; however, the original SOI is still used, but often with differential scoring for its attitudinal and behavioral items (Webster and Bryan 2007).

Regarding the three sociosexual dimensions, sociosexual behaviors reflect people's history of sexual behavior, such as person's number of casual sex partners. Because of some limitations such as reproductive constraints or cultural norms, however, women may not always engage in sociosexual behavior despite their openness to – or desire for – uncommitted sex. Therefore, sociosexual attitudes often reflect people's feelings toward uncommitted sex regardless of their behavior. People with more unrestricted sociosexual orientations have more positive attitudes toward sex without love and can imagine themselves being comfortable with and enjoying casual sex. Sociosexual desires describe

people's interest in having sex with someone with whom they are not in a committed romantic relationship. People with more unrestricted sociosexual desires often fantasize about sex with someone they just met or become sexually aroused by people with whom they lack romantic interest. Despite this multifaceted approach, the three dimensions can still be averaged together to assess global individual differences in sociosexuality.

Between- and Within-Sex Differences in Sociosexual Orientation

Men, on average, tend to be more sociosexually unrestricted than women. This sex difference is reliable across cultures (Schmitt 2005). Moreover, among the three components of sociosexuality, sociosexual desire usually shows the largest sex difference (Penke and Asendorpf 2008). From an evolutionary perspective, men have a motivation to pass their genes to as many offspring as possible. Consequently, men have more to gain – or perhaps more importantly, less to lose – from minimal reproductive investment (no gestation or lactation period). Thus, men tend to favor more promiscuous or unrestricted mating strategies because it can allow them greater access to mates, which increases their chances of passing their genes to the next generation. In contrast, women are often motivated to select the best possible mate who, besides carrying good genes, will invest in parental care of their offspring. Thus, women tend to favor a more exclusive or restricted mating strategy because it allows them to find the mate who is willing to commit resources to the burden of parenting.

Although men often show greater sexual permissiveness than women, there is much more variability in sociosexual attitudes and behaviors within each sex than between men and women (Gangestad and Simpson 1990). For example, from an evolutionary perspective, motivation for reproductive success is considered one of the factors relating to unrestricted sociosexuality in women. According to genetic approaches, female

sociosexual variation reflects women's decision to trade commitment for genetic quality. While restricted women require investment and commitment from men, unrestricted women may be reproductively competitive because they can mate with men who have favorable genotypes (e.g., high physical attractiveness) without forcing them to be committed first. Thus, although a restricted strategy can enhance paternal investment, an unrestricted strategy can enhance the chances of surviving offspring. Research has also shown that unrestricted women tend to emphasize traits likely to reflect genetic quality when evaluating potential mates (Simpson and Gangestad 1992).

Of course, reproductive success is not the sole motivation for women to engage in uncommitted sex. For instance, similar to men, the most common reason for women to have casual sex is pure pleasure, which is unrelated to female reproduction by most evolutionary accounts (Garcia and Reiber 2008). Therefore, many researchers consider social and sociocultural perspectives as more likely explanations for within-sex differences in sociosexuality among women. According to social constructionist perspectives, men and women do not innately differ in sociosexuality; instead, between-sex differences in sociosexuality likely relate to differences in how men and women fulfill their social roles. Among women, an unrestricted sociosexual orientation is associated with higher sexual dominance, perceived masculinity, and sexual liberalism. According to this perspective, one reason why women seem to be more sexually restricted than men might be because women usually face more cultural suppression for unrestricted sociosexual behavior. In cultures where women's sexual freedom is accepted or tolerated, between-sex differences in sociosexuality may be reduced as individual differences become more apparent. Indeed, cross-cultural studies have shown that between-sex differences in sociosexuality were moderated by cultural factors such as gender equality and economic development (Schmitt 2005). In developed countries that were high in gender equality, intrasexual differences in sociosexuality emerged.

Close Relationships

Mate Selection and Dating Behavior

Sexually restricted people show greater attraction to and are more likely to date partners who are more responsible, loyal, and affectionate. In contrast, sexually unrestricted people tend to prefer partners who are more attractive and have higher social visibility (Simpson and Gangestad 1992). When first interacting with potential partners, sexually unrestricted (vs. restricted) men display more laughter, smiling, and flirtatious glances. In the same context, unrestricted (vs. restricted) women are more likely to lean forward toward potential partners and to cant their heads than restricted women.

Attachment Styles

People with sexually unrestricted orientations are more likely to have avoidant attachment styles, and consequently, less likely to form secure attachments. Specifically, they are more inclined to feel greater ambivalence toward their partners, greater frustration with their partners, and are less likely to ask for help or comfort in times of need from their partners. Moreover, they are less likely to seek closeness with their partners and have less trust in their partners.

Relationship Quality

Research has found that people with sexually unrestricted (vs. restricted) orientations are more likely to have lower levels of romantic relationship quality and functioning. People who are more sexually unrestricted also tend to have more negative interactions with their romantic partners, report lower sexual interest in them, and rate them as less physically attractive. Furthermore, more sexually unrestricted people tend to be in relationships characterized by less love, commitment, and investment (Simpson and Gangestad 1991).

Infidelity

Sexually unrestricted people show increased likeliness to engage in infidelity and are particularly likely to report a sexual motivation for being unfaithful versus an emotional one. Whereas sexually unrestricted people tend to be more distressed by partners' sexual infidelity than their

emotional infidelity, the opposite pattern occurs in more restricted people, who tend to be more distressed by partners' emotional infidelity.

Relationship Type

It may be that the negative association between unrestricted sociosexuality and relationship quality is unique to monogamous relationships. One study found that while unrestricted sociosexuality was associated with more negative relationship quality for monogamous individuals, there was no relationship between sociosexuality and relationship quality for consensually non-monogamous individuals (Rodrigues et al. 2017). It should be noted that people in consensual nonmonogamous relationships report a more unrestricted sociosexual orientation than those in monogamous ones (Mogilski et al. 2017).

Personality Correlates

As a key individual difference, sociosexuality has been studied alongside several other personality traits, including the Big Five and the Dark Triad. Other personality or trait-based correlates of sociosexuality include self-esteem, aggression, and impulsivity.

The Big Five

Sociosexuality is often studied in the context of other personality traits such as the Big Five: extraversion, agreeableness, conscientiousness, neuroticism, and openness. Prior research has suggested that sociosexuality correlates positively with extraversion and openness, but negatively with agreeableness and conscientiousness (Bourdage et al. 2007; Schmitt and Shackelford 2008).

The Dark Triad

The Dark Triad – subclinical individual differences in narcissism, psychopathy, and Machiavellianism – can facilitate short-term mating strategies, particularly in men (Jonason et al. 2009). In general, unrestricted sociosexuality correlates positively with all three Dark Triad traits (Jonason et al. 2009; McDonald et al. 2012). Nevertheless, in multiple regressions predicting

unrestricted sociosexuality, Machiavellianism emerges as the only significant positive correlate among the Dark Triad traits.

Self-Esteem, Impulsivity, and Aggression

Global self-esteem is generally unrelated to sociosexuality or prior sociosexual behavior. Regarding impulsivity research, some has shown sociosexual attitudes (but not behaviors) relate positively to impulsivity (but not sensation seeking), whereas other research has shown positive links between global sociosexuality and risk impulsivity in both sexes. Regarding aggression, some research has shown that the aggression–sociosexuality link is moderately positive in men, but nearly null in women, whereas other research has shown small-but-significant links for both sexes. Additionally, sociosexual attitudes – but not behaviors – relate positively to hostility (Webster and Bryan 2007).

Conclusion

Implications

Individual differences in sociosexuality likely have implications for both social and health psychology as well as the psychology of well-being. As personality and social psychology increasingly focus on person-situation interactions (vs. person-situation debates), individual differences are often moderators of social psychological phenomena, and sociosexuality is no exception. For example, differences in women's sociosexuality can moderate their mate preferences in theoretically consistent ways. Sociosexuality may also moderate relations linking individual differences in hormones to social behavior. For example, being single (vs. partnered) positively related to testosterone levels, but only in men and women with more unrestricted sociosexual orientations (Edelstein et al. 2011). Regarding health, accounting for individual differences in sociosexuality may be key to identifying people at high risk for sexually-transmitted diseases and infections, or for understanding people's condom use. For example, studies have shown both positive and negative links between unrestricted sociosexuality and condom-use intentions or behaviors. Well-

being also shares links with sociosexuality. Specifically, both longitudinal and weekly diary methods have suggested that the link between casual sex and well-being is more positive among students with more unrestricted sociosexual orientations.

Future Directions

Future research on sociosexuality should consider expanding on at least three fronts. First, as predictions regarding sociosexuality increase in specificity, more research should focus on its three facets – attitudes, behaviors, and desires – than its aggregate score; doing so should provide more diagnostic insights. Second, because much of sociosexuality is inherently dyadic and interpersonal, researchers should begin adopting dyadic approaches to sociosexuality by collecting data from both people and their sex partners (Webster et al. 2015). Third, although we know a great deal about how sociosexuality correlates with other traits, its relation to actual behaviors remains comparatively unexplored. Future researchers should continue to explore and expand sociosexuality's links with relevant health outcomes (e.g., risk behaviors, condom use).

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Sociosexuality

- ▶ Sexual Promiscuity
- ▶ Sociosexual Orientation

Soft Emotions

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Synonyms

[Concerned](#); [Disappointed](#); [Feeling sad](#); [Hurt](#)

Definition

Soft emotion is a term that describes types of negative emotion that are associated with having pro-social goals and with the expression of interpersonal vulnerability. These emotions include feeling sad, hurt, concerned, and disappointed, and soft emotion plays a key role in theories regarding conflict in couples and other close interpersonal relationships.

Introduction

People often experience types of soft emotion, such as feeling sad or hurt, during interpersonal conflicts. Because soft emotion is associated with pro-social goals and expressions of vulnerability, it is presumed to be a key variable that can influence the process of conflict resolution. Soft emotion can be contrasted with hard emotion, which includes types of negative emotion involving feelings of anger, and hard emotion is associated with assertiveness and bids for power and dominance. On the one hand, both soft and hard emotions are similar in that they are types of negative emotion associated with the experience of interpersonal conflicts. On the other hand, these types of emotion may have different functions. Whereas hard emotion may escalate conflict interactions, soft emotion has the potential to facilitate empathy and intimacy within a relationship. In general, research finds that soft emotion is sometimes, but not always, associated with the

development and maintenance of satisfying interpersonal relationships.

Soft Emotion in Couple Therapy

The concept of soft emotion is largely derived from two different empirically supported approaches to couple therapy. First, in Integrative Behavioral Couples Therapy (Jacobson and Christensen 1996), it is assumed that the expression of soft emotion in a relationship has the potential to create a safe environment for intimate communication and to facilitate empathy and acceptance between partners. Second, in Emotionally Focused Couples Therapy (Johnson and Greenberg 1988), it is assumed that distressed partners often fail to recognize their soft emotion and that it is valuable for them to identify and express this type of emotion because it is adaptive and salient to their attachment needs. Thus, in both approaches, soft emotion is viewed as beneficial, and partners are often encouraged to express soft emotion. Research studies regarding both approaches to therapy have found that couples are most likely to improve when there is a shift from expressing hard emotion to expressing soft emotion during therapy sessions (e.g., Johnson and Greenberg 1988).

A Pro-social Negative Emotion

The concept of soft emotion is also based on theoretical models suggesting that emotions are products of evolution that enable humans to respond to basic adaptive challenges in living and that some types of emotion have pro-social functions. Buck's (1999) developmental-interactionist theory distinguishes between two important types of emotion. Selfish emotion is focused on self-preservation, conflict, competition, and fighting, and in contrast, pro-social emotion is focused on preserving interpersonal relationships, attachment, and cooperation. Presumably, soft emotion is a type of pro-social emotion. For example, sadness is a type of soft emotion, and research finds that the expression of sadness often indicates a need for social

support, that sadness is most likely to be expressed in the context of a close relationship, and that it can elicit helping and comforting behaviors from others (Clark et al. 1996). Feeling hurt is another type of soft emotion, and it is experienced in the context of an interpersonal relationship when a person wants a partner to value the relationship but perceives that the partner has failed to value the relationship at the desired level (Leary and Springer 2001). Thus, this feeling reflects an underlying core concern for maintaining attachment bonds within an interpersonal relationship.

The pro-social nature of soft emotion can also be seen in results from studies investigating the experience of soft emotion during interpersonal conflicts between married, cohabiting, and dating partners. These studies find that soft emotion is associated with endorsing pro-social goals within a relationship (Sanford 2007a) and with experiencing high relationship satisfaction and reporting low levels of attachment avoidance (Sanford and Rowatt 2004). Short-term longitudinal studies have found that, during interpersonal conflicts, increased feelings of soft emotion are associated with increased perceptions of being neglected in dating relationships (Sanford and Grace 2011) and with increased appraisals that conflicts are important to resolve in marriage relationships (Sanford 2007b). A key theme across these studies is that soft emotion appears to be associated with having goals and desires that pertain to developing and preserving satisfying interpersonal relationships.

Communicating Vulnerability

When soft emotion is expressed and perceived by a partner in a close interpersonal relationship, it may communicate an important message to that partner. Although expressions of soft emotion are not as readily recognized as expressions of hard emotion, research with married couples finds that partners do recognize each other's soft emotion when it is overtly expressed and they sometimes have an accurate awareness of each other's soft emotion even when it is not expressed clearly (Sanford 2012). The expression of soft emotion

may convey a message of vulnerability and a bid for companionship (Sanford 2007a). This is important because theoretical models of intimacy suggest that self-disclosure of vulnerability is essential for developing intimacy in a relationship. In addition, when partners perceive each other's soft emotion, they increase their levels of trust, and they view each other as being committed partners (Sanford and Grace 2011). Presumably, this is because expressions of soft emotion and vulnerability signal one's own desire and willingness to invest in a relationship.

Couple Conflict Communication

Because soft emotion is a pro-social emotion that communicates vulnerability, it is expected to facilitate the process of resolution when couples experience relationship conflicts. On the one hand, some studies find that the personal experience of soft emotion is actually associated with a minimal, albeit significant, *increase* in adversarial communication behavior, such as expressing criticism and hostility and being defensive. On the other hand, soft emotion tends to elicit significantly less adversarial behavior than does hard emotion (Sanford 2007b). Moreover, regardless of the effect on adversarial behavior, studies find that soft emotion is associated with increased collaborative communication behavior, such as politely expressing one's own desires and listening to a partner (Sanford 2007a, b). In addition, when partners perceive soft emotion *in each other*, they tend to use less adversarial and more collaborative behavior (Sanford 2007b).

Mixed Effects of Soft Emotion

Although soft emotion has the potential to facilitate conflict resolution and intimacy, research regarding the effects of soft emotion sometimes produces mixed results. One reason for this is that soft emotion can simultaneously have different and seemingly opposing effects. For example, Sanford and Grace (2011) found that, when people perceive soft emotion in their partners, they tend to experience increased perceptions of partner commitment and

this in turn leads to reductions in their own feelings of soft emotion. At the same time, people tend to experience an emotion contagion effect whereby a partner's soft emotion directly predicts increases in one's own soft emotion. Also, although a partner's soft emotion tends to increase perceptions of partner commitment, it also tends to increase concerns that a partner will be threatening, critical, or judgmental. In research where participants are specifically instructed to recall an experience of being hurt, they often recall experiences involving infidelity, betrayal, or rejection, and in these cases, soft emotion may motivate people to dissolve one relationship and seek comfort from an alternate relationship. In sum, soft emotion appears to have the potential to facilitate both positive and negative relationship outcomes.

The quality of an interpersonal relationship may partly determine whether the effects of soft emotion are positive or negative. For example, when people perceive high levels of relationship closeness, they tend to increase acquiescent responses and decrease levels of negativity after feeling hurt. In contrast, when people believe they are negatively evaluated by their partners, they tend to increase negative communication after feeling hurt, and they are likely to distance themselves from partners that are perceived as being frequently and intentionally hurtful. A study investigating predictors of conflict resolution in married and cohabiting couples found that, when people were in satisfying relationships, the effect of soft emotion was mostly benign but, when they were in discordant relationships, soft emotion was actually detrimental and associated with conflict escalation.

Individual Differences

Studies that assess people on multiple occasions find high within-person variability in soft emotion, meaning that people substantially change their emotions across different times and contexts, yet these studies also find a small but significant degree of within-person stability, with about 25% of the variance in soft emotion reflecting individual differences between people. Research also finds that the effects of soft emotion are moderated by individual differences in the ways that people

habitually express emotions in their relationships. For example, if there are chronically high levels of hard emotion in a relationship, partners tend to refrain from expressing soft emotion, and they also tend to fail to recognize it in each other when it is expressed (Sanford 2012). In addition, research finds that, although people tend to use positive communication during single instances where a partner expresses soft emotion, they tend to use negative communication if those partners chronically express soft emotion across multiple episodes of conflict (Sanford 2007b). Thus, the meaning of soft emotion in a single instance can depend on individual differences and on the types of emotion that are typically expressed by partners in a relationship.

Assessment

Researchers and clinicians can assess levels of soft emotion during episodes of couple conflict using a brief, self-report measure called the Couples Emotion Rating Form (Sanford 2007a). This instrument includes a four-item soft emotion scale measuring feelings of sadness, hurt, concern, and disappointment. It also includes a scale measuring hard emotions (such as feeling annoyed and angry) and a scale measuring flat emotions (such as feeling apathetic and disengaged). Factor analytic studies find that these three scales form three distinct factors (Sanford 2007a). In addition, research finds that ratings on the soft emotion scale correspond to observer ratings of expressed soft emotion (Sanford 2007a, 2012) and that changes in ratings of soft emotion predict corresponding changes in communication behavior and cognition (Sanford 2007b; Sanford and Grace 2011). Thus, this instrument provides a valid method for assessing soft emotion during couple's conflicts.

Conclusion

Soft emotion is a complex type of negative emotion that people often experience during interpersonal conflicts. Its distinctive features include an association with pro-social goals and expressions of vulnerability. When people experience

conflicts in interpersonal relationships, the expression of soft emotion is sometimes associated with positive behaviors such as increases in collaborative communication and empathy. However, it appears that the effects of soft emotion in a relationship may depend on relationship quality. It is most likely to improve relationship functioning when expressed in the context of a satisfying relationship.

Cross-References

- ▶ [Basic Emotions](#)
- ▶ [Evolutionary Psychology and the Emotions](#)
- ▶ [Social Pain/Hurt](#)

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Soft Neurological Examination Abnormalities

- ▶ [Neurological Soft Signs](#)

Soft Signs

- ▶ [Neurological Soft Signs](#)

Solicitude

- ▶ [Compassion](#)

Solitary

- ▶ [Introversion](#)
- ▶ [Loneliness](#)

Sorrow

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Synonyms

[Grief](#); [Remorse](#); [Sadness](#)

Definition

A long-lasting negative emotion concerning a loss or regrettable action.

Introduction

Sorrow is a negative emotion that is elicited by perceived loss or regrettable past action. It therefore can resemble sadness, grief, or remorse,

particularly when of high intensity and long duration. In studies of everyday English emotion terms, “sorrow” is rated among the most prototypical of emotions (Shaver et al. 1987). When compared with other English emotion words based on ratings of overall similarity, hierarchical cluster analysis reveals that sorrow’s greatest similarity is to the terms sadness, grief, woe, misery, melancholy, unhappiness, glumness, gloom, hopelessness, despair, and depression (Shaver et al. 1987).

Analysis

Semantic analysis of “sorrow” yields a more precise description of the term’s meaning. According to Wierzbicka (1999), sorrow is a form of intense, long-term personal distress that can be caused by a past event but is focused on the sorrowful person’s continuing suffering. Sorrow results from dwelling on a condition that is irreparable and to which the sorrowful person is resigned but cannot forget. These aspects of sorrow demonstrate why it is similar to yet not quite the same as sadness (which can be an objectless mood), as unhappiness (which doesn’t imply that the person is resigned to the situation), or as grief (which need not be of long duration).

Despite its high prototypicality as an emotion, “sorrow” can sound somewhat antiquated in modern usage. The reason may be that contemporary English-speaking societies tend to value cheerfulness and optimism, so tend to pathologize enduring negative emotions, especially when they are embraced as personally meaningful (Parrott 2014). This combination of features may make sorrow seem a somewhat old-fashioned emotion (Wierzbicka 1999).

Perhaps because of these connotations, the term “sorrow” is infrequently used in modern academic psychology. When “sorrow” is mentioned, it typically serves as a near-synonym or variant of some other emotion that is considered to be the focus of research. Therefore, psychological research on sorrow can be found by other names. Sorrow resulting from loss or disappointment is addressed in research on sadness, dejection, and despair. Sorrow for other persons’ losses is

covered by research on pity, sympathy, and empathy. Sorrow resulting from the deaths of loved ones is studied under the names of grief and bereavement. Sorrow that is rooted in regretful actions is addressed by research on guilt and shame, remorse, apology, and forgiveness. All of these topics are known to be shaped by individual differences and to reflect dimensions of personality; for further information about individual differences in sorrow, the interested reader can refer to the topics that were italicized in this paragraph, which are listed under the heading.

Conclusion

Although little research addresses sorrow specifically or by name, abundant research addresses its manifestations under other terminology, which is fortunate because human sadness, bereavement, guilt, and empathy are important topics in the psychology of personality and individual differences.

Cross-References

- ▶ Bereavement
- ▶ Dejection
- ▶ Despair
- ▶ Empathy
- ▶ Grief
- ▶ Guilt and Shame
- ▶ Negative Affect
- ▶ Sadness

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Sorrow (due to Someone's Death)

► [Grief](#)

Soul

► [Anima/Animus](#)

Source Trait

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Synonyms

[Factor](#); [Latent variable](#)

Definition

In Cattell's theory of personality, one way of classifying traits is as surface traits or source traits. Source traits must be inferred through statistical techniques, such as factor analysis, whereas surface traits can be observed directly. According to Cattell, source traits can be considered the "building blocks" of personality and are responsible for the surface traits seen in individuals. Overall, Cattell identified 16 source traits in his research on basic personality traits.

Introduction

The field of personality psychology focuses on studying how psychological differences between individuals (i.e., personality traits) can predict behaviors. Specifically, trait theories of personality focus on human personality as being

composed of several "traits" or individual characteristics that influence one's values, attitudes, emotions, and behaviors. Until Raymond Cattell's research, however, no attempt had been made to discover the "building blocks" of personality. Further, in its early stages, personality psychology was based on clinical observations (i.e., subjective judgments), used restricted populations (i.e., clinical samples), was narrow in scope (i.e., focused on specific elements of personality, such as anxiety), and failed to use statistical evidence to support conclusions made (Cattell and Kline 1977).

Cattell's "Personality Sphere"

Given the limitations of previous personality research, in the mid-twentieth century, British psychologist Raymond Cattell (1905–1998) became interested in classifying and organizing aspects of personality. In particular, in the search for basic personality traits, Cattell sought to incorporate scientific rigor into the study of personality (Cattell and Kline 1977). Thus, he aimed to identify traits that were easily observable, which he labeled surface traits (see ► ["Surface Trait"](#)), as well as those that could not be observed directly, which he labeled source traits. Source traits, for Cattell, could only be identified through statistical techniques, such as factor analysis, that would demonstrate how various surface traits clustered together.

The Identification of Source Traits

To derive his source traits, Cattell (1943) first relied on the lexical approach, based on the theory that all important personality trait words already exist in language. As such, building on Gordon Allport's list of 4500 trait adjectives (Allport and Odbert 1936), Cattell eventually narrowed it down into 46 groups of correlated trait words, which he called "surface traits" (Cattell 1943). Given the exhaustiveness of this list, traits derived from this comprehensive list would represent the entire "personality sphere." However, Cattell

acknowledged that the large number of surface traits was unwieldy and not practical for research purposes (Cattell and Kline 1977). As such, he performed a statistical technique known as factor analysis to infer the existence of underlying variables (i.e., latent variables), which he called “source traits.”

The goal of factor analysis is to identify unobserved variables (i.e., source traits) that account for relationships between observed variables (i.e., surface traits), thereby reducing the number of variables – or, in this case, traits – to be measured. The resulting factors must then be interpreted based on the content of the variables that cluster together. Cattell’s 16 global factors, or source traits, are (A) Warmth, (B) Reasoning, (C) Emotional stability, (E) Dominance, (F) Liveliness, (G) Rule-Consciousness, (H) Social boldness, (I) Sensitivity, (K) Sensitivity, (L) Vigilance, (M) Abstractedness, (N) Privateness, (O) Apprehension, (Q1) Openness to change, (Q2) Self-Reliance, (Q3) Perfectionism, and (Q4) Tension. These factors eventually formed the 16 Personality Factor Questionnaire (16 PF; Cattell and Mead 1949, see ► “Sixteen Personality Factor Questionnaire (16PF)”). For a more detailed description of each source trait, refer to Conn and Rieke (1994).

Conclusion

Cattell’s theory of personality, in particular his identification of 16 source traits, led to a burgeoning interest in the basic structure of personality. Cattell’s preliminary investigations on hierarchical traits served as a precursor for Tupes and Christal’s (1961) five factors (Surgency, Agreeableness, Dependability, Emotional Stability, Culture), Goldberg’s (1990) Big Five (Surgency, Agreeableness, Conscientiousness, Emotional Stability, Intellect), and Costa and McCrae’s (1992) Five-Factor Model (Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness). Additionally, Cattell’s use of factor analysis to identify latent personality traits introduced a new way of analyzing data in personality research. Overall, from both a

historical perspective and a modern perspective, Cattell’s source traits remain an important part of personality research and scale development.

Cross-References

- [Exploratory Factor Analysis](#)
- [Lexical Approach](#)
- [Sixteen Personality Factor Questionnaire \(16PF\)](#)
- [Surface Trait](#)

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Southard, Ashton

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Introduction

Ashton C. Southard is a special lecturer at Oakland University in Rochester, Michigan. She is a social-personality psychologist who conducts research concerning dark personality features and self-esteem.

Early Life and Educational Background

Southard was born on August 8, 1986, in Wilkesboro, North Carolina, and grew up in the rural area of Wilkes County in the foothills of the Blue Ridge Mountains. She earned her B.S. in Psychology from Appalachian State University in 2008, her M.A. in Experimental Psychology from Western Carolina University in 2010, and her Ph.D. in Social-Personality Psychology from the University of Southern Mississippi in 2014 under the supervision of Dr. Virgil Zeigler-Hill. Although Southard earned her Ph.D. from Southern Mississippi, she spent the majority of her time in the program at Oakland University in Rochester, Michigan, in order to continue training under Zeigler-Hill when he moved to Oakland in the fall of 2011 to start a graduate program in psychology.

Professional Career

Southard has taught in the Department of Psychology at Oakland University since the fall of 2011. She has authored multiple publications during her early career that have appeared in outlets such as the *Journal of Personality*, *Personality and Social Psychology Bulletin*, *Personality and Individual Differences*, and the *Journal of Research in Personality*. She has also authored several chapters on dark personality features and self-esteem and has served as an ad hoc reviewer

for peer reviewed journals including *Social Psychology*, *Personality and Individual Differences*, *Evolutionary Psychology*, and *Self and Identity*.

Research Interests

Southard's research interests are primarily in the areas of dark personality features (e.g., narcissism, psychopathy, Machiavellianism, spitefulness) and self-esteem. These two research areas often overlap and have largely examined how personality and self-esteem relate to interpersonal functioning. In her research concerning dark personality, she has focused on features of personality that can be considered to be aversive and how these personality features are associated with important aspects of interpersonal functioning (e.g., interpersonal style, resource control), as well as some less important – yet quite interesting – aspects of personal goals (e.g., reasons for desiring to be famous). Southard's research on self-esteem has focused on fragile self-esteem and how fragile feelings of self-worth relate to other personality features (e.g., the Big Five dimensions) and interpersonal relationships (e.g., romantic attitudes).

Conclusion

Southard hopes to continue conducting research to further scientific understanding of dark personality features and fragile self-esteem.

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Specht, Jule

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Jule Specht is a Professor and head of the Division Assessment and Personality Psychology at the Universität zu Lübeck, Germany. She is also a Research Fellow at the Department *Socio-Economic Panel Study* at the German Institute for Economic Research since 2012 and a member of the Junge Akademie at the Berlin-Brandenburg Academy of Sciences and Humanities and the German National Academy of Sciences Leopoldina since 2014. She is a personality psychologist who conducts research concerning (1) personality development, (2) personality assessment in old age, and (3) subjective well-being.

Early Life and Educational Background

Specht was born on April 30, 1986, in Berlin, Germany, and grew up there and in Göttingen, Magdeburg (both in Germany), and Austin, Texas. She earned her diploma in psychology (equivalent to a master degree) in 2010 and her

Dr. rer. nat. (equivalent to a Ph.D. in natural science) in 2011 both from the University of Münster, Germany.

Professional Career

Specht worked at the University of Münster, Germany, from 2010 to 2011 and at the Leipzig University, Germany, from 2011 to 2012. From 2012 to 2016, Specht has been a junior professor (similar to an assistant professor) at the Freie Universität Berlin, Germany. Since 2016, she is a professor of assessment and personality psychology at Universität zu Lübeck, Germany. She has authored several scientific publications that have been highly cited and which have appeared in outlets such as the *Journal of Personality and Social Psychology* and *Developmental Psychology*. She is an associate editor of the *Journal of Research in Personality* and a member of the editorial boards of the *Journal of Personality and Social Psychology*, *Social Psychological and Personality Science*, and *Personality and Social Psychology Bulletin*. Despite her scientific work, she also regularly publishes popular science articles and currently writes her second popular science book. Specht received scholarships from the German National Academic Foundation and the German Academic Exchange Service and is the founder of the scientific network *PERDEV: Personality development in adulthood* that was funded by the German Research Foundation and she was awarded the Berlin Science Prize for Junior Scientists by the Governing Mayor of Berlin in 2014.

Research Interests

Specht's primary research interests are in three areas: (1) personality development, (2) personality assessment in old age, and (3) subjective well-being. In her research concerning personality development, she has examined the patterns and sources of adult personality development in the Big Five personality traits and perceived control. She is interested in how these personality traits

change with age and in reaction to major life events (e.g., job entry, childbirth, retirement) as well as due to deteriorating health. Furthermore, Specht examines the role of goal-directed personality development. Her research on personality assessment is focused on the reliable and valid assessment of the Big Five personality traits in old age. She aims at combining classical questionnaire and interview data with innovative behavioral observation in everyday life. Finally, in the area of subjective well-being, she is interested in changes in cognitive, affective, as well as psychological well-being in reaction to major life events. In addition, she is interested in the dynamic interplay between subjective well-being and personality development.

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Speeded Response

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Synonyms

Reaction time; Response latency; Response time; RT

Definition

A speeded response is the rapid deployment of a motor movement, perhaps a key press or utterance, triggered by the presentation of a stimulus in an experimental paradigm where participants must act as quickly as possible.

Introduction

The time it takes to produce a *speeded response* to a stimulus is the *reaction time* (or *response time* or *latency*). Reaction time (RT) is used as a behavioral index of the strength of association between stimulus characteristics and the response, it is usually measured in milliseconds, and it is a common dependent variable in studies of performance. The idea is that rushed responses are less susceptible to modification than are considered ones.

Participants in speeded response time tasks respond to briefly presented stimuli as quickly as possible over many trials, and the pattern of performance is thought to reveal the underlying relationships between stimulus characteristics and responses (Gottsdanker 2008; Luce 1991). Strong associations produce fast reaction times (RTs). Some factors that speed up RTs include stimulus intensity, motivation, discriminability, preparation, and rehearsal. Factors that slow RTs include increasing the number of response options, indirectness of stimulus-response relationship, stimulus-response incompatibility, or length of refractory period (e.g., Gottsdanker 2008;

Kosinski 2013). Speeded response time tasks take many forms.

Varieties and Applications

Speeded response time tasks usually belong to one of three categories. In each, participants provide responses over many stimulus-response sequences called *trials*. The instruction to participants in a *simple* RT task is to make a single, rapid response to the introduction of a single stimulus, e.g., “Push the spacebar when a color-square appears.” The instruction in a *Go/No-Go* task is to respond affirmatively on target-is-present trials but to make no response on target-is-absent trials, e.g., “Push the spacebar when a blue square appears, otherwise, do nothing.” The instruction in a *choice* RT task is to categorize stimuli into the possible options, e.g., “Push the left key when a blue square appears, push the right key if a yellow square appears.”

Simple RT tasks are useful in the study of human factors, for example, in aviation research assessing pilots’ acceleration tolerance levels (e.g., Trusczyński et al. 2014). Choice RT tasks are very commonly used in the study of categorical perception or automatic processes and may involve spatial cueing, priming, categorization, stem completion, lexical decision, word naming, discrimination, condensation, implicit attitudes tasks (IAT), opportunities for interpersonal competition or aggression, or dot-probe tasks (e.g., Takahashi et al. 2015). Some versions of Go/No-Go tasks, like Stroop, stop signal, Garner, Simon, Eriksen flanker, go/no-go attitudes task (GNAT), and sustained-attention-to-response task (SART), are used to study cognitive control, where *response inhibition* can indicate the level of motor inhibition when there is a conflict between response options (Berron et al. 2015).

Complications

Speed-Accuracy Trade-Off

Reaction times in speeded response tasks are related to accuracy, another common dependent

variable. Participants may trade speed for accuracy or vice versa in response to task constraints (Liu and Watanabe 2011). Because erroneous responses can be made quickly, error rates are often analyzed in conjunction with the RTs from correct trials.

Analysis

The analysis of RT data often proceeds by averaging RTs across participants and then comparing measures of central tendency across experimental conditions with inferential statistical tests like ANOVA or regression. These summary statistics may obscure the informative variability in the performance of individual participants. An alternative to using summary statistics is to perform time series analysis on the trial-to-trial performance of individual participants to reveal fine-grain underlying structure (Holden et al. 2011).

Interpretation

Frans Donders posited that RT is the time required to process information and that a subtraction operation could reveal the duration of processing stages in simple RT versus choice RT tasks. To measure the duration of a stage, first measure the RT for a task with a single stimulus and response (like pressing a key when any color-square appears on-screen), and then measure RT again for a task with a decision involved (like pressing one key for a blue square and another for a yellow square). The difference between the RTs is the time needed for the additional processing in the more complicated task; a typical difference might be about 80 ms (Gottsdanker 2008).

Response speed and accuracy may be influenced by other factors too, however. The predictable nature of RT tasks may mean that the rhythm of the experimental paradigm could act as a metronome for performance over time. For example, Grosjean et al. (2001) showed that stimuli that appeared earlier than usual produced slower RTs and fewer errors, but stimuli that appeared later than usual produced faster RTs and increased errors, as predicted by a version of Roger Ratcliff’s diffusion model. The disrupted rhythm of experimental trials may have influenced performance beyond just the normal operation of processing stages.

Response speed and accuracy are important variables in the *implicit association test (IAT)* too. The IAT relies on differences in RT and error rates in the computation of measures of sensitivity to stimulus characteristics like *d-prime* (d'). Whether the IAT measures implicit attitudes, stereotype availability, strength of association, or familiarity is the subject of much discussion. Implicit measures are predictive of behavior though, like political orientation (Jost 2018).

Conclusion

Speeded response tasks are experimental paradigms that require participants to rapidly respond to a briefly presented stimulus with a key press or other quick movement. Response time is faster when the stimulus-response association is strong. There are many varieties of speeded response task in experimental psychology. Analyzing speeded response data means watching out for speed-accuracy trade-offs and deciding whether to use summary statistics versus time series techniques. There is disagreement about how to interpret differences in response times across conditions. For example, are the differences only the product of processing time or something else? Can they reveal implicit prejudice or just familiarity? Implicit attitude measures are controversial yet predictive of behavior. Overall, speeded response tasks are easily implemented, context-sensitive windows into performance (Jost 2018).

Cross-References

- ▶ [Implicit Association Test](#)
- ▶ [Response Inhibition](#)

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Sperm Competition

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Synonyms

Cuckoldry; Postcopulatory sexual selection; Prudent sperm allocation

Definition

When sperm from two or more males simultaneously occupy one female's reproductive tract and compete to fertilize ova, this is an occurrence

known as sperm competition (Parker 1970). In species practicing social monogamy yet also engaging in extra-pair copulations, sperm competition can lead to unknowingly investing heavily into genetically unrelated offspring (cuckoldry) (Trivers 1972). Sperm competition exists among many species, and it seems to be a recurrent issue that human males face as Cerda-Flores and colleagues (1999) reported that in certain populations, 20% of children are genetically unrelated to the man socially regarded as their father. However, other research suggests much lower rates of nonpaternity, as in a meta-analysis that reported a rate of 3.1% across 32 studies (Voracek et al. 2008).

Sperm Competition in Nonhuman Species

Sperm competition has been observed in insects, birds, molluscs, and mammals (Shackelford et al. 2015). When females of these various species mate with more than one male in a sufficiently short time window as to result in two ejaculates occupying her reproductive tract at once, usually the most important factor determining which male's sperm will win the competition is the number of sperm inseminated; the larger the deposit, the more likely it is to fertilize the ovum (Parker 1970). Therefore, males tend to engage in prudent sperm allocation in which calibration of the amount of sperm ejaculated occurs based on the likelihood that their partner has engaged in intercourse with another male. This likelihood is usually judged on sensory cues of sperm competition, such as the presence of rival males. Additionally, species with higher overall risk of sperm competition produce larger sperm than those with lower risk (Shackelford et al. 2015).

Sperm Competition in Humans

Has sperm competition been a common ancestral problem for humans? There exists evidence that this probably was the case. Across species, there is a positive correlation between testis size, number

of sperm per ejaculate, and sperm competition risk. In human males, the testes (in proportion to body mass) are larger than in primates in which females typically mate with one male, such as gorillas, but smaller than in primates known to be more promiscuous, such as chimpanzees (Smith 1984). It is likely, then, that humans faced an intermediate level of sperm competition risk in their evolutionary history. Additionally, reports from women suggest that they engage in mating in such a way as to induce sperm competition. For instance, in a survey of British women, 17.5% reported that they copulated with more than one man within a 5-day span on at least one occasion during their lifetimes (Baker and Bellis 1993a). Moreover, women also tend to fantasize about sex with at least two men simultaneously; as this type of fantasy was among the ten most popular kinds of fantasies reported (Price and Miller 1984).

Because sperm competition seems to exist in humans and because it can be a threat to male reproductive success (as cuckoldry could possibly lead to a failure to pass on one's own genes), it might come as little surprise that there is evidence that men have evolved adaptations to sperm competition, which likely manifests itself as a man's long-term partner committing sexual infidelity (Shackelford et al. 2015). Such adaptations can be both physiological and psychological. In terms of physiological adaptations, prudent sperm allocation has been the most heavily researched. One of the most well-known studies documenting evidence for prudent sperm allocation comes from Baker and Bellis (1993a) in which five men in exclusive sexual relationships provided a total of 40 copulatory ejaculates, and it was found that there was a negative association between the number of sperm ejaculated and the proportion of time the couple spent together since their most recent copulation (which was treated as an objective measure of sperm competition risk). For another example, men who are exposed to pornography featuring two men and one woman (a scenario in which sperm competition would occur) produce masturbatory ejaculates with a higher percentage of motile sperm compared to men exposed to pornography with the absence of sperm competition (Kilgallon and Simmons 2005).

In terms of psychological adaptations to sperm competition, the most commonly researched one is a strong desire to copulate with one's partner upon being exposed to cues of sperm competition risk. Such a desire is thought to motivate behavior that would enhance a man's probability of success in sperm competition (Shackelford et al. 2002). The available empirical evidence seems to be consistent with this postulation. For instance, Shackelford and colleagues (2002) found that men who spent a larger proportion of time apart from their partner since the couple's last copulation reported a higher desire to copulate with her, after controlling for relationship satisfaction and investment. Not only this, but this same study revealed that such men also reported being more attracted to their partner, that other men find their partner more attractive, and that their partner was more interested in copulating with them; these are also considered part of the psychological adaptations to sperm competition.

Conclusion

Sperm competition has been identified as a reproductive concern for males in both humans and nonhuman animals due to possible cuckoldry. Across species, the response to sperm competition tends to be prudent sperm allocation. While much of the literature at this point has focused on nonhuman animals (especially insects and birds), research on the effect of sperm competition on human reproductive processes is still in its infancy. With both physiological and psychological adaptations identified in humans to combat sperm competition, there exist numerous avenues for future study in this field.

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SPI

- [Supernumerary Personality Inventory, The](#)

Spielberger, Charles D.

Sumner Sydeman

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Charles Donald Spielberger, Ph.D. (1927–2013), was a faculty member in the Department of Psychology at the University of South Florida

for over 40 years (O’Roark et al. 2014). He was a clinical and community psychologist with research in the areas of: clinical and health psychology, behavioral medicine, assessment of emotions including anxiety, anger, curiosity, and depression; job stress; personality and learning; psychosocial risk factors associated with hypertension, cardiovascular disease, and cancer; cross-cultural research on emotion and personality; community psychology; and the assessment and treatment of test anxiety (O’Roark 2013). He died at the age of 86 from congestive heart failure and is survived by his wife Carol and son Nicholas (Morgan 2014).

Early Life and Educational Background

Spielberger was born on March 28, 1927. His grandparents had emigrated from Hungary to Arkansas in the nineteenth century. His parents moved when he and his younger sister Joyce were children to Atlanta, Georgia (O’Roark et al. 2014). Spielberger had originally planned on entering the family business (soft drinks). He enrolled at the Georgia Institute of Technology with a focus in chemistry. However, he enlisted in the Navy in 1945 (O’Roark et al. 2014). He completed active duty as a radio and electronics technician in 1945 and 1946 (Munsey 2010). After World War II, he remained in the Naval Reserve, retiring eventually in 1979 with the rank of Commander (Munsey 2010; O’Roark et al. 2014).

After completing his active duty in the Navy, Spielberger returned to Georgia Tech to complete his bachelor’s degree in chemistry in 1949. Later that year, Spielberger became a national field secretary for Alpha Epsilon Pi, his college fraternity. He received a scholarship to study psychology at the University of Iowa for his services, supervising a new chapter of his fraternity at Iowa (O’Roark et al. 2014). He earned his bachelor’s degree in psychology in 1951. He continued on for graduate education at Iowa; during his graduate studies, he took advantage of the GI bill to help fund his education and was funded as a research and teaching assistant through the Veteran’s Administration (VA trainee) and as a United

States Public Health System (USPHS) Fellow (O’Roark et al. 2014). Spielberger completed his master’s degree in 1953 and his doctoral degree in 1954. Spielberger’s doctoral dissertation was chaired by Kenneth Spence at Iowa and examined anxiety and stuttering. During his time as a graduate student at Iowa, Spielberger served as research assistant for other renowned psychologists including I.E. Farber, Judson Brown, and Grant Dahlstrom (O’Roark et al. 2014). He completed his predoctoral internship (USPHS) at the Worcester State Hospital in Massachusetts, during which time he received clinical supervision from psychologists associated with the renowned Boston Psychoanalytic Institute.

Spielberger then completed appointments at Duke University (Assistant Professor to Associate Professor, Chief Psychologist) in psychology and psychiatry from 1955–1963. Spielberger moved to Vanderbilt University where he served as Professor of Psychology from 1963 to 1967; he was on leave from Vanderbilt at the National Institute of Mental Health as a training specialist from 1965–1967. He then moved to the psychology department at the Florida State University, serving as Professor of Psychology and Director of Clinical Training from 1967 to 1972 (O’Roark et al. 2014).

In 1972, he made his final academic move, finding his permanent academic home in the Department of Psychology at the University of South Florida in Tampa, Florida, at the rank of Professor. As Professor and Director of Clinical Training at USF from 1972 to 1977, he led the way for the clinical psychology program to receive accreditation from the American Psychological Association (O’Roark et al. 2014). Also in 1973, he was recognized by the USF as its first recipient of the university’s Distinguished Scholar Award, the highest academic honor bestowed by the University. He developed the USF Center for Research in Behavioral Medicine and Health Psychology, serving as the director for 25 years. From 1983 to 2005, he held the rank of Distinguished University Research Professor. Spielberger retired in 2003 but continued on at USF as Distinguished University Research Professor Emeritus. He received honorary doctoral degrees from: Kent

State University in 2003, the Pacific Graduate School of Psychology in 1990, and the Hungarian University of Budapest in 1991 (O’Roark et al. 2014). He continued to work prolifically until nearly the time of his death in 2013 (O’Roark 2013).

Professional Career and Research Interests

Charles Spielberger was a worldwide ambassador for psychology, making significant contributions to the field in his many roles, including researcher, scholar, leader, mentor, and teacher (Morgan 2014). As a prolific scholar, he made numerous editorial contributions that included six journal-associated editorships and editorships of five book series. Over his career, he authored over 460 professional publications including book chapters, monographs, and journal articles. Spielberger was awarded 17 grants for research, advanced study institutes, and educational and scientific conferences over the course of his career. His publications have been referenced with more than 50,000 citations (O’Roark et al. 2014).

It was during his time at Duke University that Spielberger started providing consulting services at a community-services center in North Carolina, which would be the start of his involvement in community psychology. Also while at Duke, he obtained National Institute of Mental Health (NIMH) funding for his research on verbal conditioning and interventions to alleviate the negative impact of anxiety on academic performance. He was a founder of the field of community psychology and in 1972 started the *Journal of Community Psychology* (O’Roark et al. 2014).

In the area of research, Spielberger is perhaps most widely known as the author of the State-Trait Anxiety Inventory (STAI), a 40-item self-report measure of state and trait anxiety (Spielberger et al. 1983). The STAI was revised to its current form (Form Y) in 1983 and since its inception the has been translated to over 70 languages and dialects (Spielberger 2010) and has been cited in more than 16,000 archival research publications, making it one of the most widely used

psychometric tests in the world (Spielberger 1999). He also authored numerous other widely used psychometric measures including the State Trait Anxiety Inventory for Children (Spielberger et al. 1970), the Test Anxiety Inventory (Spielberger 2005), the State-Trait Anger Expression Inventory-2 (Spielberger et al. 1999), the State-Trait Anger Expression Inventory Child/Adolescent version (Brunner and Spielberger 2009), two measures of lifestyle defense mechanisms (the Rationality/Emotional Defensiveness (R/ED) Scale and the Need for Harmony (N/H) scale) (Spielberger and Reheiser 2000), the Job Stress Survey (Spielberger and Vagg 1999), and the State-Trait Personality Inventory (STPI). The STPI includes scales to measure state and trait anxiety, anger, curiosity, and depression (Spielberger 2005).

Spielberger was a leader in numerous societies in various officer positions. He served on the American Psychology Association’s Board of Directors, as the APA Treasurer, and he was the 100th president of the American Psychological Association in 1991 (O’Roark et al. 2014). As APA Treasurer, spear-headed the controversial decision to sell *Psychology Today*, a publication owned by the APA. The magazine had become a significant drain of APA resources and Spielberger foresaw that this problem would only continue and worsen. With this sale, he and APA leaders restructured APA’s reserve funds and investment in property. This culminated in the purchase of APA’s building: APA, which had previously rented office space in Northern Virginia area, bought the beautiful American Psychology Association Building on First Street in Washington, DC.

In 1961, Spielberger became a diplomate in clinical psychology from the American Board of Professional Psychology. He was a charter member and founder of the American Board of Assessment Psychology in 1995. He was also a fellow in 14 divisions in the APA over his career. In total, he served as president of eight different psychological associations. Further, he served as president of four divisions within the APA (Community, Clinical, International, and Media) and four different international associations. He was the 25th

president of the International Association of Applied Psychology, the first multinational psychological organization. He served on the Board of Trustees in the American Psychological Foundation and also served as the chair of the Council of Scientific Society Presidents (O’Roark et al. 2014).

Spielberger received more than 23 prestigious career awards, including the Award for Distinguished Contributions to the International Advancement of Psychology in 2005, the Wilhelm Wundt-William James Award for Substantial and Enduring Contributions to Psychology as a Science and as a Profession in 2005, The Gold Medal Award for Life Achievement in the Application of Psychology from the American Psychological Foundation in 2003, the STAR (Society for Test Anxiety Research) Lifetime Contribution Sward from the Society for Stress and Anxiety Research in 1998, the Centennial Award for Distinguished Contributions to Knowledge and Professional Practice from APA in 1994, the Centennial Award for Distinguished Sustained Contributions to Education in Psychology from APA in 1992, and the Distinguished Lifetime Contributions Award from Psi Chi (O’Roark et al. 2014).

Spielberger was also a key figure in international/cross-cultural psychology (Morgan 2014; O’Roark 2013). His first international collaborations were in Latin American starting in 1976 as an officer in the Inter-American Society of Psychology (IAAP). In his 12 years of presidential roles in IAAP, he organized an international conference in Singapore, implemented four book series that included 14 volumes devoted to health psychology and behavioral medicine, and spearheaded the publication of the *Encyclopedia of Applied Psychology* with involvement of researchers worldwide. Over his career, he served as a Visiting Professor at the University of Santiago de Compostela in Spain, spent time at the Netherlands Institute for Advanced Study, and worked abroad at the Florida State University London Study Center (O’Roark et al. 2014). With renowned psychologist Irwin Sarason, he obtained a NATO grant that supported an advanced study institute and collaborated with

Sarason and Hans Eysenck, Ph.D., a British psychologist, to organize a conference on “Stress and Anxiety in Modern Life” held in Germany. Further NATO grants supported three additional conferences held in Norway, Italy, and England. On two separate occasions he spent significant time at The Netherlands Institute for Advanced Studies as a Research Fellow. During this time he organized two major international conferences focused on “Stress and Anxiety” as well as an international conference on “Health Psychology” held in Europe (O’Roark et al. 2014).

Spielberger and his wife Carol were known for their dedication to students and generosity that included significant donations to numerous professional organizations, including the American Psychological Foundation to endow an annual \$5,000 graduate student research scholarship named for Spielberger and his wife (O’Roark 2013). His support for graduate students was also exemplified by his key support in 1987 in efforts to form a national graduate student association, which resulted in 1988 in the formation of the American Psychological Association of Graduate Students (APAGS), which currently has a membership of over 30,000 graduate students. Over his career, Spielberger served as chair for over 60 doctoral dissertations (O’Roark et al. 2014).

Charles Spielberger was not only one of the great diplomats for the field of psychology but was also a physically imposing man at 6 feet, 2 inches in height. However, despite this larger than life stature, both personally and professionally, those who worked with Spielberger described him as an approachable, patient, kind, gracious person with an intense curiosity and love for psychology, a “gentleman and scholar” (O’Roark 2013).

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Spirit

- ▶ [Anima/Animus](#)

Spiritual Transcendence Scale

- ▶ [Assessment of Spirituality and Religious Sentiments \(ASPIRES\) Scale](#)

Spirituality

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Synonyms

[Mysticism](#); [Personal religion/religiosity](#); [Search for the sacred](#); [Self-transcendence](#)

Introduction

Recent decades have seen a surge of scholarly interest in the study of spirituality. In the decade from 1976 to 1985, PsycINFO reports just 33 publications that used the word “spirituality” in their title; this accounts for 0.1‰ of all registered publications. In the following decade, 201 publications (0.3‰) can be identified, 1,224 (1.5‰) in the decade thereafter, and 3,161 (1.9‰) in 2006–2015. The term spirituality is used for a broad range of beliefs, practices, and experiences related to a search for the sacred (Hill et al. 2000) or self-transcendence (Schnell 2012; Streib and Hood 2016). Alas, a widely acknowledged conceptualization of spirituality is still far off.

The Spirituality/Religion Debate

Scholars tend to disagree about the relationship between spirituality and religion. Both can be conceptualized as referring to “the feelings, thoughts, experiences, and behaviors that arise from a search for the sacred” (Hill et al. 2000, p. 66). Therefore, some authors advocate viewing spirituality and religion as identical (Streib and Hood 2016). Others highlight the differences between both, such as the institutional and traditional character of religion opposed to the subjective and individualized quality of spirituality (Saucier and Skrzypińska 2006; Schnell 2012).

The apparent conflict between the unifying and the differential approach can be traced to a more or less broad understanding of religion and the sacred. The sacred, in Hill and colleagues' definition of religion, refers to "a divine being, divine object, Ultimate Reality, or Ultimate Truth as perceived by the individual" (p. 66). Religion, here, may thus be either traditional or individualized, either related to a supernatural power or of secular nature. A distinction of spirituality from religion, on the other hand, is justified by diverging relationships between self-rated spirituality, self-rated religiosity, and a variety of demographics, beliefs, practices, and psychosocial variables. In a US sample, Zinnbauer et al. (1997) found self-rated spirituality (but not religiosity) positively associated with education, income, New Age beliefs and practices, spiritual growth in groups, mystical experiences, and hurt by clergy. Self-rated religiosity (but not spirituality) was positively related to a positive evaluation of religiousness, a view of spirituality as potent and constricted, right-wing authoritarianism, self-righteousness, interdependence with others, and self-sacrifice for others. Moreover, laypeople's (*emic*) connotations of spirituality corroborate a differential approach to religiosity and spirituality. Both German and US citizens evaluated spirituality more positively than religion and associated it with adjectives like "creative," "liberating," "flexible," "tolerant," and "individual" (Streib and Hood 2016). These findings suggest that, although a majority of people view spirituality and religion as closely related (Zinnbauer et al. 1997), there is a competing outlook. It expresses a desire for a personal, authentic, and experiential stance and gives rise to the concept of "spirituality without religion" (Saucier and Skrzypińska 2006; Schnell 2012; Zinnbauer et al. 1997).

Vertical and Horizontal Self-Transcendence

A well-recognized defining element of spirituality is self-transcendence. It signifies a connection with, or experience of, something larger than the self, perceived as ultimately meaningful, true, or

sacred. The direction of transcending can be vertical, i.e., referring to a higher, supernatural power, or horizontal, i.e., this-worldly, as, for example, in unison with nature, or generativity (Schnell 2011, 2012; Streib and Hood 2016). Humanist and atheist spirituality are particular models of horizontal transcendence. Their proponents emphasize the need to connect to one another and the universe. They describe the experience of being part of the unity of all things as inspiring a sense of awe, but deny the existence of a deity.

Dimensions of Spirituality

Due to the heterogeneity of the concept spirituality, several more or less independent dimensions have been proposed. The following have been covered repeatedly:

- Traditional religious/institutional beliefs and practices
- Idiosyncratic beliefs in the sacred, the transcendent, etc.
- Sense of connectedness, awe, love, awareness, and wholeness
- Paranormal or mystical experiences
- Behavior such as prayer, meditation, or paranormal practices
- Values and ethos
- Mindfulness
- Self-knowledge and self-acceptance
- Search for meaning

A Spiritual Turn?

In European countries, the authority of religious institutions has declined. This is in line with the secularization thesis. One of its advocates, Max Weber, predicted a "disenchantment of the world" along with the emergence of rationality. Increasing numbers of atheists and agnostics seem to support this view. Nevertheless, the majority of Europeans still claims to be religious (71%) and/or drawn to spirituality (83%; EVS 2016). In many cases, their practice and experience have

taken on personal forms of relating to the sacred. A post-Christian spirituality, defined by dissociation from both atheism and institutionalized religion and association with belief in a spirit, a life force, life after death, or reincarnation, has been shown to have risen in the last decades (Houtman and Aupers 2007).

Measuring Spirituality

An apparent problem of measuring spirituality is the lack of conceptual clarity. Another serious concern is that of scale contamination. A large number of spirituality measures contain items that assess constructs like religion, mental health, well-being, or meaning in life. This phenomenon mirrors the authors' understanding of spirituality, but results in biased findings. Research on the relationships between spirituality and meaning in life, mental health, or well-being requires clear and distinct operationalization of the constructs in use, since overlapping scales artificially inflate relations. Moreover, the increasing use of the term "spirituality" instead of, or together with, the term "religion" should be reflected in the measurement, by either explicitly equating both or by employing differentiating assessment tools.

Numerous spirituality scales are currently available. They cover general spirituality, spiritual beliefs, practices, experiences, motivations, and struggles. Monod et al. (2011) provide a systematic review of instruments with an explicit focus on spirituality, including measures of European and American origin. Many of these suffer from the observed shortcomings. Scholars would thus be well advised to first clarify their understanding of spirituality and then carefully choose among the scales that fit their research purpose.

Spirituality in the Context of Personality

Researchers have repeatedly investigated relationships between spirituality and personality dispositions, such as the Big Five. Positive correlations between openness to experience, extraversion, and various dimensions of spirituality have been

established. Religiosity, in contrast, appears to be unrelated to openness and extraversion, but positively associated with agreeableness and conscientiousness. The magnitude of these effects tends to be small to moderate, suggesting that neither religiosity nor spirituality is reducible to the five-factor model (see Schnell 2012). Spirituality has also been studied with respect to cognitive styles. Cross-sectional, longitudinal, and experimental studies have found small negative associations between an analytic cognitive style and facets of spirituality such as supernatural, paranormal, and religious beliefs and spiritual epistemology, i.e., the conviction that most important knowledge comes from spiritual experiences (Browne et al. 2014). These findings suggest that individuals who hold supernatural beliefs tend to process information more intuitively than analytically.

Another line of research has investigated spirituality in the context of characteristic adaptations, such as values and sources of meaning. Using the Schwartz Value Survey, Saroglou and Munoz-Garcia (2008) found (the personal importance of) spirituality to be moderately related to benevolence, while power and achievement showed small negative correlations. Other than religiosity, spirituality was unrelated to conformity and tradition. In a study of spirituality and sources of meaning (Schnell 2012), measured by the Sources of Meaning and Meaning in Life Questionnaire (SoMe), high importance of spirituality was linked to high horizontal self-transcendence (generativity, self-knowledge, unison with nature, and social commitment). This was similar for religiosity. Unlike religiosity, spirituality was also positively associated with attentiveness, harmony, and creativity. Finally, spirituality – like religiosity – has been shown to be a particularly strong predictor of meaningfulness (Schnell 2011).

To summarize, a spiritual person can be characterized by openness to experience, more intuitive than analytic reasoning, and a sense of meaning in life. She commits to self-transcendence and assigns less importance to self-enhancement. Her action is guided by creativeness and consideration for herself and her environment.

Spirituality and Health

Whereas relationships between religion and health are well studied, there is a lack of research differentiating between religion and spirituality. With regard to religion, accumulated data suggest a protective effect of religious service attendance on risk of mortality, particularly in healthy populations. Furthermore, religiousness is consistently related with low levels of substance abuse and less frequent occurrence of suicide and affective disorders. Longitudinal studies support the notion that religion affects health, rather than vice versa. This suggests a preventive effect: being part of a religious community provides social support and a sense of belonging, which are known to buffer stress and promote mental health. Moreover, the community shares (and often monitors) a set of norms that are usually in line with health maintenance behavior. Observing these norms, as well as the self-regulatory processes involved in doing so, may also increase mental and physical health.

Because most religious people also self-describe as spiritual, spirituality is rarely assessed as a unique construct. A small number of studies did so and occasioned results that qualify the view of spirituality as a purely positive construct. Schnell (2012) found large-effect differences between spiritual-but-not-religious individuals and those who self-described as spiritual and religious in a German sample. The former showed significantly higher scores in neuroticism, specifically in angry hostility, self-consciousness, depression, and anxiety. King et al. (2013) analyzed data from a large study of English households. Those identified as spiritual but not religious reported more drug use and dependency, abnormal eating attitudes, general anxiety disorders, phobias, and neurotic disorders than people who were religious and also more than the neither spiritual nor religious. Due to a lack of longitudinal studies, it is difficult to explain these findings. It is conceivable that people who profess spiritual beliefs and experiences in the absence of a religious framework are more vulnerable to emotional instability and mental disorders. This interpretation suggests itself in view of the evidence that religion's impact on health is primarily

traceable to religious service attendance, which offers social support and connectedness to others who share a set of norms. Spirituality without religion, instead, is of an open, individualized character, independent from normative systems and established rituals. This puts a lot of pressure on the individual to choose, justify, and commit to beliefs and actions. Alternatively, people suffering from emotional stress or mental problems might not feel drawn to institutionalized religion, but hope to benefit from the experiential, self-compassionate nature of spiritual approaches.

Conclusion

Spirituality enjoys a high attractiveness in Western populations, which is reflected by an increasing popularity as a research topic. Although spiritual issues had been part of the science of psychology from the very beginning (Allport, James, Wundt), they have until recently not been widely acknowledged as relevant for the study of individuals and their psychological qualities and processes. Insights from the psychology of religion – and lately also from other fields of psychology – attest to the importance of recognizing spirituality in its forms of personality trait, attitude, or motivation and as a potential resource for (or impediment to) health, coping, and well-being. To enable scientific progress, emphasis should be put on clear definitions and their operationalization. In that regard, the use of the term religion/spirituality is more of a hindrance than an advance. For those who wish to equate spirituality with religion, the sole use of the latter term might be pertinent. All others should keep in sight the multi-dimensional character of the construct spirituality and specify both theoretically and by choice of measurement, which dimension(s) they intend to work on.

Cross-References

- ▶ [Assessment of Spirituality and Religious Sentiments \(ASPIRES\) Scale](#)
- ▶ [Beliefs](#)

- ▶ [Meditation](#)
- ▶ [Mindfulness](#)
- ▶ [Paranormal Beliefs](#)
- ▶ [Rational Thinking](#)
- ▶ [Religion](#)
- ▶ [Self-Knowledge](#)
- ▶ [Self-Transcendence](#)
- ▶ [Values](#)

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Spitefulness

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Definition

Spitefulness refers to an action in which an actor incurs some form of self-harm or cost in order to inflict harm or cost on another, even if the act will not result in any benefits for the actor.

Introduction

Spitefulness has at times been defined as any act that is vindictive or mean-spirited in nature. However, this definition is problematic because it is quite broad and does not distinguish acts of spitefulness from acts of aggression (Marcus and Zeigler-Hill 2015). This led evolutionary biologists and behavioral economists to adopt a more precise definition of spitefulness that requires that the actor must incur some form of self-harm or cost in order to inflict harm on another individual, even if the act will not result in any foreseeable benefits for the actor (e.g., Cullis et al. 2012; Fehr and Fischbacher 2005; Hamilton 1970; Smead and Forber 2013). This more specific definition is consistent with the popular expression “cutting off your nose to spite your face” and is advantageous over more broad definitions because the specification that spitefulness must entail some harm or cost to the actor differentiates spitefulness from other harmful tendencies such as aggression, vengeance, and selfishness.

Although social and personality psychologists have only recently become interested in the construct of spitefulness, behavioral economists and evolutionary biologists have examined spitefulness for some time in both humans and nonhuman

species. Spiteful behaviors have been identified in several nonhuman species including social insects, bacteria, and primates. Spitefulness in humans has been examined using economic games and recently has expanded following the publication of the Spitefulness Scale (Marcus et al. 2014) which offers a method for measuring individual differences in tendencies toward spitefulness. This entry will first review evidence for spitefulness in nonhuman species, then review research on spitefulness in humans using both economic games and the recently introduced spitefulness scale, and finally suggest avenues for future research.

Spitefulness in Nonhuman Species

In order to investigate the evolutionary origins of spitefulness, scientists have examined the possibility of spiteful acts in nonhuman species. This task has been problematic partially because of difficulties in distinguishing spiteful actions (i.e., actions that entail harm to the actor and the target, with no direct benefits to the actor) from acts of selfishness or vengeance, which may result in benefits for the actor and do not necessarily require that the actor incur any self-harm (West and Gardner 2010). West and Gardner (2010) identified multiple instances of behaviors previously considered to be spiteful, but which only harm the target of the behavior and directly benefit the actor or the actor's reproductive fitness in some way. For example, western and herring gulls attack and kill the chicks of conspecifics, but do not eat them. This act was once considered spiteful, but killing the chicks of other gulls directly benefits the actor by reducing competition for resources and, thus, increasing the actor's reproductive fitness. As such, this behavior is now considered a selfish act as opposed to a spiteful one (Foster et al. 2001). Female three-spined sickleback fish cannibalize the eggs of other females. This act was also considered spiteful; however, consuming the eggs of conspecifics directly increases the actor's fitness by decreasing competition for resources for her offspring (Foster et al. 2001). As these examples demonstrate,

identifying instances of truly spiteful behaviors in nonhuman species has been challenging.

Although difficult to identify, researchers have found evidence of genuine spitefulness in nonhuman species. One example is the sterile soldier caste in polyembryonic parasitoid wasps (e.g., Gardner et al. 2007; West and Gardner 2010). The females of this species lay their eggs inside of the eggs of moth caterpillars (e.g., Giron et al. 2004). After parasitism of the host caterpillar, the wasp eggs then divide asexually and feed on the growing caterpillar. Most of the wasp embryos develop normally by consuming the host caterpillar and emerge from the host as adult wasps that are capable of reproduction. However, a minority of the wasp embryos develop into soldier morphs that are armed with enlarged mandibles and longer bodies in comparison to the normally developing wasps. The soldiers develop a bit earlier than the other embryos and use these enhanced physical attributes to attack and kill other wasps developing inside the host caterpillar, preferentially killing those larvae that are less genetically related (e.g., those developing from the egg of another female wasp). Developing into a soldier morph is costly because the soldiers never molt, are sterile, and, importantly, die when the reproductive wasps finish consuming the host caterpillar (e.g., Giron et al. 2004). This act is considered spiteful because the actor (i.e., soldier wasp) incurs a cost (i.e., sterility and death) in order to attack and harm other larvae, with no direct benefit to the actor (West and Gardner 2010).

Another example of spitefulness in nonhuman species comes in the form of "worker policing" in some species of social insects (e.g., Foster et al. 2001). Worker insects are usually unable to mate in most species, although some workers do possess functioning ovaries (e.g., Bourke 1988). Workers with functioning ovaries are able to produce males of the species via haplodiploid sex determination (i.e., unfertilized haploid eggs become males, whereas fertilized diploid eggs become females). However, the production of males is monopolized by the queen partially because of the "policing" behaviors of non-reproductive workers which include aggression towards the reproduction-capable workers and

eating their haploid eggs (Ratnieks 1988). These nonreproductive workers incur costs by expending time and energy in order to prevent the reproduction attempts of other workers, with no direct benefits to the actor for engaging in this behavior. The spiteful phenomenon of worker policing has been documented in honeybees (e.g., Ratnieks and Visscher 1989) as well as Vespinae wasps (e.g., Foster and Ratnieks 2001). Further, spitefulness has been observed in many species of bacteria that produce antimicrobial bacteriocins (e.g., Gardner et al. 2004; West and Gardner 2010). These bacteria release their toxin which is lethal to conspecifics that are not genetically related to the actor, and thus lack an immunity gene. This is considered to be spiteful because the release of the toxin often results in the death of the actor; thus, these bacteria incur a considerable cost.

One recent study also provides some evidence for spitefulness in nonhuman primates. Leimgruber et al. (2016) examined several mechanisms of punishment behavior in a social group of capuchin monkeys. In this study, six capuchin subjects were given the option to spitefully punish a conspecific by pulling a rope which caused a desirable food item (cereal) to be inaccessible in four different conditions. The procedures were specifically designed to examine factors known to influence punishment decisions and whether or not punishments were spiteful in nature. In each of the four conditions, the subjects were given access to a rope that was attached to a folding leaf of a table such that if the rope was pulled, the leaf of the table would collapse and the food on the leaf would fall into a bin and out of reach. The table was positioned between two small testing enclosures (i.e., the subject's enclosure and a conspecific's enclosure) with the collapsible folding leaf on the side of the table opposite to the subjects' enclosure. The rope was located outside of the subject's testing enclosure in a larger area so that subjects had to leave the testing enclosure, and sight of the food, in order to collapse the table.

In the "loss" condition, food was placed on the side of the table closest to the subject's enclosure and subjects were given access to the food for 5 s, after which the food was moved out of the

subject's reach onto the collapsible leaf of the table for 60 s (Leimgruber et al. 2016). This condition was intended to examine whether the subjects would pull the rope out of frustration over the loss of the food. In the other three conditions, another capuchin serving as the "stooge" monkey was placed in the testing enclosure on the opposite side of the table, closest to the folding leaf. In the "partner-feeding condition," food was placed on the folding leaf of the table opposite of the subject's enclosure and the stooge was given access to the food for 60 s. In this condition, the subject was never given access to the food and was only able to watch the stooge eat the food from their enclosure. This condition was designed to examine whether subjects would punish a feeding conspecific by pulling the rope to take the food away from them. In the "outcome disparity" condition, the subject was given access to the food for 5 s, and then the food was moved across the table onto the folding leaf where a stooge was able to access it for 60 s. This condition was intended to examine whether the subjects would punish the stooge for having access to the food for a longer period of time. Finally, in the "theft" condition, subjects were given access to the food for 5 s, after which the stooge was given access to a rope attached to the tray of food such that the stooge could use the rope to pull the food over to their side of the table and out of the reach of the subject. This condition was intended to examine whether the stooge's intentionality (i.e., intentionally causing the subject to lose access to the food) influenced subjects' punishment behavior.

In addition, each of the six subjects experienced the four conditions three times (Leimgruber et al. 2016). First when other members of their social group were not able to observe the trial, then again when their social group was able to observe, then once more when their social group was again prevented from watching the trial. This manipulation was a key aspect of the procedure for examining spitefulness because if the subjects punished the stooge more often when other members of their social group were able to watch, then their punishment behaviors would directly benefit them by signaling to other members of their group that they are likely to punish those who possess more

of a resource than they do. This direct benefit would indicate that the punishment behaviors were not acts of spite.

The results of the study revealed that the main factor determining the subjects' punishment behaviors was the stooge monkey's access to the food (Leimgruber et al. 2016). Subjects collapsed the table significantly less in the "loss" condition, when no stooge was present, than in the other three conditions when the stooge had access to the food. Importantly, this effect remained regardless of whether or not other members of the subjects' social group were able to observe. The authors suggest these findings may indicate that the capuchin subjects were behaving spitefully. The subjects collapsed the table significantly more often when the stooge had access to the food, as opposed to when the food was simply taken away from them in the loss condition, even though punishing the stooge resulted in no direct benefit for them (i.e., pulling the rope caused the stooge to lose access to the food, but did not give subjects access to the food). Further, the presence of their social group did not affect punishment behaviors, so the actions of the subjects' were unlikely to have been motivated by any expected benefits to their reputation. Thus, these punishment behaviors could be considered to be spiteful.

However, it is important to note that in order for a behavior to be considered an instance of spite, the actor must incur some harm or cost in order to inflict harm or cost on another individual and the costs to subjects in this study were quite minimal. The cost to the subject was a slight loss of energy and a brief loss of sight of the food in order to leave the testing enclosure and pull the rope. This highlights an important question in the study of spitefulness. Specifically, how much cost must an actor incur in order for a behavior to be considered spiteful? The capuchin subjects incurred a minimal loss of energy and the non-reproductive worker insects similarly incur loss of energy and time in policing reproductive workers. But the sterile soldier caste wasps and toxin-releasing bacteria incur a much more substantial cost (i.e., death) in order to harm others. This important question remains open and is deserving of further consideration.

Spitefulness in Humans

Although research on spitefulness in humans is still in its early stages, spitefulness has been associated with a number of destructive human behaviors (Marcus and Zeigler-Hill 2015). Individuals may engage in belligerent, extended custody battles during divorce proceedings that damage parents' relationships with their children (Scott 1992). Some complainants, litigants, and petitioners relentlessly pursue "justice" for minor personal grievances which can result in significant financial losses, legal troubles, and damage to personal relationships (Mullen and Lester 2006). Individuals with borderline personality disorder may harm themselves as a means to punish their close others (Critchfield et al. 2008), and in extreme cases, some individuals may commit suicide partially in attempts to traumatize others (Joiner 2010). As these instances demonstrate, there are many anecdotal examples of people behaving spitefully, but actual research has been very limited. The studies that do shed some light on human spitefulness have usually utilized variations of the Ultimatum Game (UG) paradigm that is typically used in economics research, although it is important to note that these studies have rarely been framed as investigations of spitefulness. More recently, Marcus and his colleagues (Marcus et al. 2014) introduced the Spitefulness Scale to the social and personality psychology literature which has increased the ease of examining individual differences in spitefulness and how spitefulness relates to other relevant constructs. This section will first discuss the UG and research utilizing this paradigm and then review recent research employing the Spitefulness Scale.

Spitefulness in the UG

The basic version of the UG involves two players: one player (the proposer) decides how to divide a sum of money between the two players and the other player (the responder) decides to either accept or reject the proposer's offer. If the responder accepts, then the players divide and keep the money in the way suggested by the proposer. If the responder rejects the offer, then

neither player receives any money. This paradigm offers the responder the opportunity to act spitefully by rejecting unequal offers even though this means that they also will receive no money. In one-shot versions of the UG (i.e., versions in which responders play with a different partner each turn), the most rational strategy is to accept all nonzero offers from the proposer because some money is better than no money. However, UG research has found that it is quite common for responders to spitefully reject uneven offers (Camerer 2003). For example, in a UG in which the proposer offers to split \$10 such that the proposer keeps \$7 and the responder receives \$3, if the responder rejects the offer, then they are essentially paying \$3 so that the proposer loses \$7. As such, examining behavior of responders in UG research offers an avenue for gaining insight into spitefulness, even though many of the studies were not designed as investigations of spite.

UG studies consistently demonstrate large individual differences in spitefulness in responders' behavior; some accept almost all offers and some reject almost all unequal offers (e.g., Camerer 2003; Fehr and Schmidt 1999). Indeed, in an extensive review of UG studies, Camerer (2003) found that highly unequal offers were rejected about 50% of the time. Across studies using the UG (e.g., Pillutla and Murnighan 1996) or similar methods (e.g., Kimbrough and Reiss 2012), approximately 25–33% of players consistently behaved spitefully. Researchers have also examined whether individual difference variables predict spiteful behavior in the context of the UG. Individuals high in Machiavellianism reported that they would play selfishly (i.e., would accept more offers) as opposed to spitefully in a hypothetical version of the UG (Meyer 1992). Younger responders have been found to play more spitefully than older responders when the proposer is believed to be young (Bailey et al. 2013). Further, spitefully rejecting unequal offers has been associated with combinations of emotional instability and extraversion, emotional stability and introversion (Brandstätter and Königstein 2001), and high trait positive and low trait negative affect (Dunn et al. 2010). Taken together, these findings indicate that there are

wide individual differences in spiteful behaviors in the context of the UG, as well as several individual difference variables that are associated with tendencies toward spitefully rejecting unequal offers.

Research Using the Spitefulness Scale

Marcus and his colleagues (Marcus et al. 2014) recently developed the Spitefulness Scale, which is a 17-item self-report measure of individual differences in spitefulness (also see Spitefulness Scale entry for an extended description). Items on the scale were specifically designed to describe situations in which there is the opportunity to see another person harmed, but doing so entails self-harm as well (e.g., “I would take on extra work at my job if it meant that one of my co-workers who I did not like would also have to do extra work”). The introduction of the Spitefulness Scale has increased the ease of conducting research on spitefulness, and studies have begun using this scale to examine associations between spitefulness and a number of important outcomes. As part of the initial validation of the scale, Marcus et al. (2014) examined how spitefulness scores related to other dark personality features as well as the personality features of the HEXACO model of personality. Findings indicated that spitefulness was positively related to Machiavellianism, pathological and normal forms of narcissism, and psychopathy, especially the subfacets of these constructs that reflect callousness, manipulation, and the willingness to exploit others. Spitefulness was also positively associated with self-reported aggression, and overall psychological distress, and negatively associated with feelings of guilt, and the agreeableness, conscientiousness, and honesty-humility dimensions of the HEXACO model. Importantly, these findings demonstrate expected associations between spitefulness and other darker features of personality, but the magnitude of these associations indicates that spitefulness is a distinct construct.

Recent research finding associations between scores on the Spitefulness Scale and important outcomes has provided further insight into the nature of spitefulness. Southard et al. (2015) found that spitefulness was associated with a

cold and callous interpersonal style characterized by unwillingness to cooperate with others and antagonism. Similarly, Zeigler-Hill and Noser (2016) found consistent associations between spitefulness and the pathological personality dimensions of antagonism and disinhibition. Zeigler-Hill and Vonk (2015) found that spitefulness was associated with a variety of aspects of emotion dysregulation including nonacceptance of emotional responses, impulse control difficulties, limited access to emotion regulation strategies, and, to a lesser extent, lack of emotional clarity. The authors suggest these findings may indicate that spiteful behavior may partially be driven by being out of touch with one's own emotions such as problems monitoring, managing, and understanding one's own emotional states. Further, the positive associations between spitefulness and limited access to emotion regulation strategies and impulse control difficulties may indicate that spiteful behaviors emerge, in part, out of impulsive reactions to perceived provocation (e.g., a man abruptly hits his breaks while driving because he believes the car behind him is tailgating him). Further, investigations of the associations between spitefulness and emotion difficulties have been extended to the ability to understand and interpret the mental states and emotions of others (Ewing et al. 2016). Specifically, Ewing et al. (2016) investigated how scores on the Spitefulness Scale related to components of Theory of Mind (ToM) and found that spitefulness was associated with deficits in both the social-perceptual (i.e., ability to identify the mental/emotional states of others using perceptual cues such as facial expressions, gestures, or bodily movements) and social-cognitive (i.e., ability to reason about the mental/emotional states of others without relying on perceptual cues) components of ToM. The authors suggest that these findings may indicate that individuals high in spitefulness have difficulties understanding the thoughts or intentions of others, especially when they believe that another person has committed a transgression against them. Finally, spitefulness has been negatively associated with moral concerns that emphasize minimizing harm to others and maximizing justice and equality (Zeigler-Hill et al. 2015).

Taken together, the above studies have expanded knowledge on individual differences in spitefulness and have begun to shed light on the nature of the construct. The emerging picture suggests that individuals high in spitefulness are likely to be antagonistic, cold, and hostile toward others (Southard et al. 2015; Zeigler-Hill and Noser 2016) and are also likely to have difficulties controlling their impulses (Zeigler-Hill and Noser 2016; Zeigler-Hill and Vonk 2015). It also seems that individuals high in the construct experience a variety of emotion regulation difficulties (Zeigler-Hill and Vonk 2015) as well as difficulties in understanding the mental and emotional states of others (Ewing et al. 2016). These findings may indicate that acts of spitefulness are partially driven by impulsive and highly emotional reactions to perceived (possibly incorrectly) provocation. Further, because spitefulness has been found negatively associated with feelings of guilt (Marcus et al. 2014) and moral concerns that emphasize minimization of harm to others and maximization of fairness and equality (Zeigler-Hill et al. 2015), individuals high in spitefulness may experience little regret after committing spiteful acts.

Directions for Future Research

Despite the large number of UG studies that have implications for understanding spiteful behaviors as well as the recent research discussed in the previous section, there is still little research investigating spitefulness as an individual difference and personality feature. Therefore, much research is needed to address many unanswered questions regarding the nature of trait spitefulness and it is likely that future investigations will be aided by the Spitefulness Scale developed by Marcus et al. (2014). For example, one important question yet to be answered is whether trait spitefulness actually predicts spiteful behaviors? One way this question could be addressed would be to investigate whether or not scores on the Spitefulness Scale predict the rejection of unfair offers in the UG.

A related question yet to be answered regards the occurrence of spiteful behaviors in everyday life (Marcus and Norris 2016). Little is known about how often people engage in truly destructive spiteful behaviors that harm both the actor and the target. Is spiteful behavior an every-day occurrence? Are there specific situations that are especially likely to elicit spiteful behaviors? Daily diary and ecological assessment studies could be used to address questions of this nature. These methods could also help to clarify whether scores on the Spitefulness Scale predict the frequency and severity of daily spiteful behaviors. Further, this research could also aid in discerning whether frequent and particularly destructive spiteful behaviors are associated with any forms of psychopathology. Could frequent and severely spiteful behavior be an indication, result, or associate of mental health problems? Or, conversely, are otherwise well-adjusted individuals capable of destructive spitefulness?

Another important avenue for future research is to examine the possibility that there are actually two forms of spitefulness captured by the scale developed by Marcus et al. (2014), one reactive and the other proactive (also see Ewing et al. 2016 for a similar argument) similar to the distinction between reactive and proactive forms of aggression (e.g., Scott 1972). The reactive form of spitefulness might reflect a specific desire to see others receive the punishment they “deserve” and may be captured by items on the Spitefulness Scale such as “There have been times when I was willing to suffer some small harm so that I could punish someone else who deserved it.” The proactive form of spitefulness might reflect a more general desire to see others punished regardless of whether or not the individual has done anything to deserve the punishment. This form of spitefulness may be captured by items on the Spitefulness Scale such as “Part of me enjoys seeing the people I do not like fail even if their failure hurts me in some way.” Although the psychometric analyses of Marcus et al. (2014) found the Spitefulness Scale to be unidimensional, this intriguing possibility should be further examined in future research.

Conclusion

Although evolutionary biologists and behavioral economists have examined spitefulness for a number of years, social and personality psychologists have only recently begun to investigate spitefulness. There is evidence of spiteful behaviors in several nonhuman species including sterile soldier caste wasps, social insects, bacteria, and capuchin monkeys, which may help in illuminating the evolutionary origins of spitefulness. In humans, much is known about spiteful play in economic decision-making games; however, little is known about individual differences in trait spitefulness or how these differences relate to everyday life. Thus, there are a multitude of avenues for future research, only a few of which are discussed in this entry. It is likely that future research will find spitefulness to be relevant to our understanding of behavior in numerous contexts and the Spitefulness Scale introduced by Marcus et al. (2014) should increase the ease with which this research is conducted.

Cross-References

- ▶ [Marcus, David K.](#)
- ▶ [Spitefulness Scale](#)
- ▶ [Ultimatum Game](#)
- ▶ [Zeigler-Hill, Virgil](#)

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Spitefulness Scale

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Definition

The Spitefulness Scale is a 17-item self-report questionnaire that assesses individual differences in tendencies toward spitefulness

(i.e., the willingness to incur self-harm or cost in order to inflict harm or cost on another individual).

Introduction

The Spitefulness Scale was developed and introduced by Marcus et al. (2014) and is the first self-report measure of spitefulness as a personality dimension. The scale consists of 17 items that were specifically designed to describe situations in which there is an opportunity to engage in some behavior or express a preference that would inflict harm or cost on another individual, but doing would entail harm or cost to the self as well (e.g., “Part of me enjoys seeing the people I do not like fail even if their failure hurts me in some way”). Responses to each item are provided on scales that range from 1 (*strongly disagree*) to 5 (*strongly agree*). Items on the scale describe a variety of contexts including politics (e.g., “If I opposed the election of an official, then I would be glad to see him or her fail even if their failure hurt my community”), work (e.g., “I would take on extra work at my job if it meant that one of my co-workers who I did not like would also have to do extra work”), academics (e.g., “If I had the opportunity, then I would gladly pay a small sum of money to see a class mate who I do not like fail his or her final exam”), physical conflict (e.g., “I would be willing to take a punch if it meant that someone I did not like would receive two punches”), problems with neighbors (e.g., “If my neighbor complained that I was playing my music too loud, then I might turn up the music even louder just to irritate him or her, even if it meant I could get fined”), and other everyday experiences (e.g., “If I am checking out at a store and I feel like the person in line behind me is rushing me, then I will sometimes slow down and take extra time to pay”). For some items the harm/cost to the self is obvious (e.g., getting punched, paying a fine), whereas other items involve self-harm/cost that is more subtle (e.g., taking a longer time to leave a parking lot, living with a messy front yard).

Scale Development, Reliability, Validity, and Correlates

Marcus et al. (2014) originally generated 31 items, and following item response theory analyses, the 17 best performing items were retained. The retained items functioned similarly across age, sex, and ethnicity (i.e., Caucasians vs. ethnic minorities), and, although these items describe a variety of contexts, psychometric analyses found the scale to be unidimensional. Further, the scale demonstrated good internal consistency in the initial research of Marcus et al. and across subsequent studies with alphas ranging between 0.94 and 0.90 (Ewing et al. 2016; Marcus et al. 2014; Southard et al. 2015; Zeigler-Hill and Noser 2016; Zeigler-Hill et al. 2015; Zeigler-Hill and Vonk 2015). Overall, the evidence suggests that the Spitefulness Scale measures a single coherent construct.

As part of the initial validation of the scale, Marcus et al. (2014) examined associations between scores on the Spitefulness Scale and related constructs. Overall, the patterns of association between the Spitefulness Scale and criterion variables emerged as expected. Individuals who reported high levels of spitefulness also reported higher levels of aggression, shame proneness, and psychological distress and lower levels of agreeableness, conscientiousness, and the honesty-humility dimension of the HEXACO model of personality, guilt proneness, and self-esteem. Scores on the Spitefulness Scale were also positively related to other darker features of personality including psychopathy, pathological and normal forms of narcissism, and Machiavellianism, with the strongest associations emerging for the aspects of these constructs that reflect callousness (e.g., callous affect facet of psychopathy, primary psychopathy), manipulation, and exploitation (e.g., exploitation/entitlement facet of narcissism, interpersonal manipulation facet of psychopathy, Machiavellianism). Importantly, these associations with criterion variables were large enough to support the authors' hypotheses but not so large as to suggest that the Spitefulness Scale was measuring the

same construct. In addition, the authors also found demographic differences in spitefulness scores such that men, ethnic minorities, and younger participants reported higher scores than women, ethnic majority (i.e., Caucasian), and older participants, respectively.

Incremental validity of the Spitefulness Scale has been demonstrated in at least two studies examining associations between spitefulness and other constructs after controlling for basic personality dimensions. Zeigler-Hill et al. (2015) investigated associations between the Spitefulness Scale and moral values, after controlling for the basic dimensions of personality captured by the HEXACO model. The results indicated that spitefulness was significantly, negatively associated with moral values that emphasize the minimization of harm to others and the maximization of fairness. Ewing et al. (2016) examined associations between components of theory of mind (ToM) and the Spitefulness Scale after controlling for the HEXACO dimensions of personality. The findings indicated that spitefulness was significantly, negatively associated with the social-perceptual component of ToM (i.e., the ability to identify the mental states of others on the basis of perceptual cues such as facial expressions).

Predictive validity of the Spitefulness Scale has been demonstrated in one study conducted by Moyer et al. (2016). In this study, the authors examined whether scores on the Spitefulness Scale were associated with spiteful behavior in a resource allocation game in which participants could spitefully choose to keep less of a resource for themselves in order to ensure that another player also received less. The authors found that individuals who reported higher scores on the Spitefulness Scale also behaved more spitefully in the resource game. Of note however, participants in this study were individuals clinically diagnosed with psychotic spectrum disorders who were undergoing inpatient treatment. Thus, the question of whether scores on the Spitefulness Scale predict spiteful behavior in the general population remains open for investigation.

Several studies have examined other potential correlates of the Spitefulness Scale that begin to shed light on the nature of the construct of

spitefulness. As noted above, Ewing et al. (2016) examined the associations between the Spitefulness Scale and components of ToM and found that spitefulness was negatively associated with the social-perceptual and social-cognitive (i.e., ability to identify the mental states of others on the basis of contextual cues) components. Southard et al. (2015) found scores on the scale to be positively associated with a cold and callous interpersonal style characterized by unwillingness to cooperate with others and antagonism. Similarly, a study conducted by Zeigler-Hill and Noser (2016) found consistent positive associations between spitefulness and the pathological personality dimensions of antagonism and disinhibition. These studies suggest that individuals who report high levels of spitefulness are likely to engage in highly antagonistic behaviors which may be impulsive in nature. Supporting this contention, Zeigler-Hill and Vonk (2015) found that higher scores on the Spitefulness Scale were associated with aspects of emotion regulation difficulties including nonacceptance of emotional responses, impulse control difficulties, limited access to emotion regulation strategies, and lack of emotional clarity. These findings further suggest that highly spiteful behavior may emerge as a result of difficulties monitoring, managing, and understanding one's own emotional states.

Measurement Issues

Although research employing the Spitefulness Scale is still in its earliest stages, there are some emerging measurement issues worthy of discussion. First, the distribution of scores is most often highly positively skewed. While this may not present a problem conceptually (i.e., highly spiteful individuals may truly be fewer in number than individuals who are low in spitefulness), this does present problems for statistical analyses that assume variables are normally distributed. Transformations and bootstrapping procedures can be used to improve the normality of a distribution or correct for it somewhat, but these procedures are not perfect and may not completely correct for skewness.

Second, as suggested by Ewing et al. (2016), there is a possibility that items on the Spitefulness Scale actually capture two forms of spitefulness, one *proactive* and the other *reactive*, similar to the distinction between proactive and reactive forms of aggression. The reactive form of spitefulness appears retaliatory in nature such that spiteful behaviors are aimed only at those who are perceived to have engaged in some action that warrants punishment. This reactive form of spitefulness may be captured by items on the Spitefulness Scale such as “There have been times when I was willing to suffer some small harm so that I could punish someone else who deserved it.” The proactive form of spitefulness, in contrast, may reflect a more general desire to harm or punish others regardless of whether or not they are perceived to deserve punishment. Items on the Spitefulness Scale that may capture the proactive form of spitefulness potentially include items such as “Part of me enjoys seeing the people I do not like fail even if their failure hurts me in some way.” Although the psychometric analyses conducted by Marcus et al. (2014) suggest that the Spitefulness Scale is unidimensional, the possibility of proactive and reactive forms of spitefulness should be investigated in future research.

Also of note, Moyer et al. (2016) developed and employed an alternative method of scoring the Spitefulness Scale. Reasoning that increased scores on the scale could be obtained by either reporting less disagreement with items on the scale (i.e., responding 2 *disagree* as opposed to 1 *strongly disagree*) or strongly agreeing with a few items (i.e., responding 4 *agree* or 5 *strongly agree*), the authors chose to employ a scoring method in which each participant’s total number of maximally spiteful responses (i.e., number of items on which each participant reported 5 *strongly agree*) was calculated as an alternative indicator of spitefulness. Future research may begin to employ this scoring method if evidence emerges that suggests it is more beneficial. However, it is worth noting that this scoring method did not appear to improve the normality of the distribution of spitefulness scores in the study conducted by Moyer et al. (2016).

Conclusion

The 17-item Spitefulness Scale developed by Marcus et al. (2014) measures individual differences in the tendency and willingness to incur self-harm or cost in order to inflict harm or cost on another individual. Items on the scale describe spiteful actions/tendencies in a variety of contexts, and preliminary research has suggested the scale is internally consistent and reliable across gender, ethnicity, and age. Although research using the Spitefulness Scale is still in its early stages, researchers have found the scale to be positively associated to other darker personality features including narcissism, Machiavellianism, (Marcus et al. 2014), psychopathy (Marcus et al. 2014; Moyer et al. 2016), antagonism, disinhibition (Zeigler-Hill and Noser 2016), and a cold and hostile interpersonal style (Southard et al. 2015). Further, scores on the scale have also been associated with problems understanding and managing one’s own emotions (Zeigler-Hill and Vonk 2015) as well as difficulties in understanding the emotional and mental states of others (Ewing et al. 2016). It is hopeful that the Spitefulness Scale will continue to benefit researchers in investigating the construct of spitefulness in a wide array of contexts.

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Splitting

- ▶ [Compartmentalization](#)
- ▶ [Dichotomous Thinking](#)

Splitting (Defense Mechanism)

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Synonyms

[All-or-nothing thinking](#); [Black-and-white thinking](#); [Compartmentalization](#); [Dichotomous thinking](#)

Definition

Splitting typically refers to an immature defense whereby polarized views of self and others arise due to intolerable conflicting emotions. A person employing splitting may idealize someone at one time (seeing the person as “all good”) and devalue them the next (seeing the person as “all bad”). As a defense, splitting allows individuals to simultaneously maintain contradictory attitudes towards self and others, but also prevents a view integrating both qualities concurrently. Splitting can also refer to a variety of divisions within personality and consciousness. Splitting here may include partitioning between internal and external realities, unconscious and conscious mentality, or id and ego. By encompassing division, splitting is a concept that traverses a number of theoretical

approaches and can be considered a form of “dissociation.” Splitting can also be considered a developmental phase characteristic of primitive thinking in early childhood that provides the basis for the active defense.

Introduction

The concept of “splitting” has a long history in psychiatry and psychodynamic psychology. Broadly speaking, “splitting” can refer to a number of processes entailing division within the personality and consciousness. In the late nineteenth century, Pierre Janet described a “splitting of consciousness” that resulted from traumatic experiences. Janet believed that certain abnormally vulnerable individuals were incapable of synthesizing traumatic experiences into their ordinary stream of consciousness. As a result, the person may come to vacillate between their ordinary personality state and a dissociated one (“subconscious” mind). Janet’s views provide the basis for modern theories of dissociation (see Van der Hart and Horst 1989). Janet’s contemporary, Sigmund Freud, on the other hand, also postulated a splitting of consciousness resulting from trauma. Freud’s view differed from Janet’s view in terms of the postulation of defense mechanisms. The negative affect resulting from trauma led to the repression of traumatic memories. As a result of repression, these traumatic memories become split off from the main body of consciousness and subsequently became pathogenic (see Boag 2012).

Later, Freud viewed splitting as a normal part of personality development within his structural model of id, ego, and superego. The development of the ego involves repressing incompatible drive-derivatives (impulses). These repressed drive-derivatives go on to form the id and remain split off from the developing ego:

In the course of things it happens again and again that individual instincts or parts of instincts turn out to be incompatible in their aims or demands with the remaining ones, which are able to combine into the inclusive unity of the ego. The former are then split off from this unity by the process of repression, held back at lower levels of psychical development and cut off, to begin with, from the possibility of satisfaction. (Freud 1920, p. 11)

According to Freud, however, there may nevertheless be further divisions within the personality, and the ego itself may also become split within itself. Freud, however, denied the possibility of multiple egos, although some object relational approaches have developed this theoretical possibility (see Boag 2014).

Splitting of the Ego and Fetishism

Freud (1940) also discusses the splitting of the ego in the context of fetishism. According to Freud, fetishism arises when two contradictory attitudes co-occur as a result of a masturbatory impulse associated with threat. For example, a young child fears castration for masturbation, but rather than stopping the act out of fear, the child instead disavows the threat of castration and creates the fetish object as a substitute for the penis. In this way, says Freud, rather than simply repression of the impulse, there remains a recognized threat of castration, while also a simultaneous disavowal of this. This allows the fetish-masturbation to proceed undisturbed, but further results in a split of the ego: “this success is achieved at the price of a rift in the ego which never heals but increases as time goes on. The two contrary reactions to the conflict persist as the center-point of a splitting of the ego” (p. 276).

Splitting of Representations

While the theory of castration anxiety has for the most part receded into the annals of psychoanalytic history, Freud’s view on splitting and fetishism serves as a basis for the modern understanding of splitting of representations. Melanie Klein (1935/1992) developed Freud’s theory, viewing splitting as a very primitive defense against anxiety associated with the paranoid-schizoid position. According to Klein, the developing infant ego is initially solely concerned with psychical (internal) reality. Around the age of four to five months, however, the very young ego begins to acknowledge external reality. Concurrently, the infant experiences intolerable ambivalence towards its primary object (the breast): the breast

is the primary source of satisfaction, but is also an object of intense frustration. According to Klein, the frustrated infant’s immature ego is unable to acknowledge that the breast can be both the loved, satisfying object, and the hated, frustrating object. Subsequently, the breast (or specifically imagos or representations of it) becomes split into two: an excessively “good” object and an excessively “bad” one, reflecting the libidinal and death drives, respectively. The infant thereafter comes to relate to two separate object representations (the “good” and “bad” breasts).

Klein’s theory-laden approach is not the standard view on splitting, but splitting is now typically viewed within the context of a split between excessively “good” and excessively “bad” self and other representations. Lichtenberg and Slap (1973), for example, describe a “splitting of representations” whereby anxiety-arousing ambivalence leads to a defensive partitioning that separates good and bad representations of self and objects. Myers and Zeigler-Hill (2008) similarly define splitting as the formation of cognitive representations of the self and others that are either all-good or all-bad, with a consequent inability to perceive the self or others as possessing both good and bad qualities simultaneously. An individual employing splitting will thereafter be incapable of seeing themselves or others as complex, taking instead a one-sided view (either “all good” or “all bad”), and possibly alternating between these views (idealizing one minute, devaluing the next).

Splitting and Associated Psychopathology

Splitting is commonly associated with both narcissistic and borderline pathologies. Some approaches view narcissism as a compensatory, defensive delusion of superiority arising in reaction to feelings of inferiority. Splitting is implicated whereby both feelings of inferiority and grandiosity co-exist, but remain separated from one another:

“The most striking features of pathological narcissism are grandiosity and a sense of entitlement. Both are compensatory, the first for feelings of inferiority or inadequacy...which may be

unconscious or may even coexist consciously with the grandiosity but not be integrated with it; the second represents desired reparation for real or fantasised injury” (Moore 1995, p. 236).

Some evidence suggests that splitting towards the self is associated with self-esteem instability, but only for individuals higher in self-esteem and not for those lower in self-esteem (Myers and Zeigler-Hill 2008).

Alternating between extremes of idealization and devaluation (splitting) is also typical of borderline personality disorders (BPD). Kernberg (1967) developed the concept of “borderline personality organization” entailing ego-deficits, which include failure to synthesize various object-relations. Splitting here occurs as a specific defensive maneuver to separate object relations and conflicting affective valences. Cognitive approaches to BPD, on the other hand, refer to splitting within BPD as “dichotomous thinking” (e.g., Wenzel et al. 2006). A major difference between psychodynamic and cognitive approaches is with respect to the causes of splitting. Psychodynamic approaches highlight the defensive role of splitting, whereas cognitive approaches tend to view splitting as a nondefensive, immature cognitive style characteristic of BPD.

Conclusion

Splitting is a complex phenomenon whereby contradictory attitudes are compartmentalized, and a resulting dichotomized, black-and-white thinking dominates. As a primitive mode of thought, splitting prevents more complex understanding and evaluations of targets. While characteristic of infancy and early childhood, splitting can nevertheless be retained into adulthood. In a broad sense, the black-and-white moral thinking found in political and social discourse indicates that splitting is a pervasive cognitive response that may be difficult to ever fully outgrow.

Cross-References

- ▶ [Castration Anxiety](#)
- ▶ [Defense Mechanisms](#)
- ▶ [Denial \(Defense Mechanism\)](#)

- ▶ [Object Relations Theory](#)
- ▶ [Psychoanalysis](#)
- ▶ [Repression \(Defense Mechanism\)](#)
- ▶ [Structural Model](#)

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Splitting Scale

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Synonyms

SI

Definition

Splitting is a defense mechanism in which an individual represents the self or others as all good or as all bad. The Splitting Index (SI) measures three forms of this defense mechanism.

Introduction

Gould, Prentice, and Ainslie (1996) created the Splitting Index (SI) based upon the theoretical framework supplied by Kernberg (1985). Splitting is the tendency of individuals to view their self or others as all good or as all bad. Early in life, splitting is a normal feature of cognitive immaturity, but maturation proceeds with a growing ability to synthesize positive and negative representations into more realistic understandings of both self and others. For some individuals, however, the attempt to integrate such contradictory representations produces an overwhelming anxiety that motivates a continued use of splitting. Splitting then becomes a defense mechanism. Kernberg argued that splitting is especially characteristic of borderline, narcissistic, and other personality disorders.

Gould et al. (1996) used factor analytic procedures to construct three 8-item measures of splitting. Loading strongest on a self-splitting factor was the claim, "My feelings about myself are very powerful, but they can change from one moment to the next." Two items displayed maximal loadings on family-splitting. One was the reverse-scored assertion, "My relationship with my family is solid." The other said, "My family was often hurtful to me." Most indicative of other-splitting was the reverse-scored self-report, "My friendships are almost always satisfying." Responses to the SI ranged across a 1 (*strongly disagree*) to 5 (*strongly agree*) Likert scale. A Cronbach α of at least .84 confirmed the internal consistency of each factor, and test-retest reliabilities across a 4-week interval were at least $r = .83$.

In two samples, significant positive correlations appeared among all three SI subscales, ranging from .32 to .60. Especially noteworthy in

confirming the SI as relevant to Kernberg's perspective on splitting were direct relationships of all three factors with measures of the borderline and narcissistic personality. Expected relationships also appeared with positive and negative affect, depression, self-esteem, and self-stability. Nonsignificant and weakly positively relationships with two cognitive complexity scales documented discriminant validity. Gould et al. offered theoretical and empirical arguments for identifying the SI as superior to other available measures of splitting (e.g., Gerson 1984; Bond et al. 1994).

Researchers have responded to Gould et al. (1996) by using the SI to explore three most obvious personality issues. Specifically, these studies have used the SI to examine the borderline personality, self-functioning, and relationship difficulties.

Borderline Personality Functioning

A range of studies have supplied additional evidence linking splitting with borderline personality functioning. In a French nonclinical sample, the full SI combined with a measure of identity diffusion to explain variance in borderline impulsivity (Gagnon et al. 2016). This outcome supported Kernberg's analysis of the borderline personality. An Iranian investigation used the SI to confirm the importance of splitting in cultural contexts outside the West (Ghorbani et al. 2016). In a sample of Iranian undergraduates, all three SI factors correlated positively with each other and with two measures of the borderline personality. Validity of the SI also appeared in direct relationships with perceived stress and in negative connections with an array of mental health measures. A study in the Czech Republic found that borderline personality disorder patients scored higher than schizophrenics on specifically self-splitting, and the two patient groups differed in their pattern of splitting correlations with other measures (Pec et al. 2014). Interpretation of these results centered on neurological differences between borderline and schizophrenic patients, but these

data were also in general conformity with Kernberg's interpretation of borderline functioning.

Unexpected findings have been discovered as well. Based upon clinical observations, Masterson (1981) argued that effective treatment of borderline personalities requires a "mastery of the talonic impulse" in which patients overcome their belief in "an eye for an eye and a tooth for a tooth" (p. 182). One implication of this suggestion was that borderline tendencies and splitting should predict support for the death penalty (Watson et al. 2003). A sample of American undergraduates displayed the expected positive correlations among the SI factors and borderline functioning, but family splitting and a measure of the borderline personality each predicted opposition to rather than support for the death penalty. In an interpretation of this family-splitting result, the suggestion was, "Being committed to family members within the context of ambivalent or 'split' feelings may promote greater understanding or acceptance of people who are perceived to be 'difficult'" (Watson et al. p. 427). Confirmation of this possibility requires additional research.

Clarifying the Self

In studies clarifying the self, the basic observation has been that the SI validly assesses self-instability. The SI, for example, has predicted greater self-ambivalence (Tisher et al. 2014), a weaker sense of self (Flury and Ickes 2007), and emotional dysregulation (Aldea and Rice 2006). One investigation also found that self-esteem instability was typical of individuals with low self-esteem, but high self-esteem interacted with self- and family-splitting to predict greater self-esteem instability (Myers and Zeigler-Hill 2008). Splitting, therefore, may be a source of self-instability even in those who appear to be relatively more adjusted.

In another study clarifying the self, Baikie and McIlwain (2008) responded to previous demonstrations that expressing feelings about disturbing

life experiences in writing can produce physical and psychological benefits. These researchers used an undergraduate sample to compare an expressive writing experimental group with a control group. The experimental group displayed fewer adjustment problems, and this effect was especially evident in those who scored higher on splitting. Expressive writing may, therefore, have a potential for healing the "splits" that occur in splitting.

Relationship Disturbances

The SI also predicts disturbed interpersonal relationships. The full SI has correlated negatively with self-reported authenticity in romantic relationships (Lopez and Rice 2006). Self- and other-splitting have exhibited associations with instability and disturbances in styles of attachments with others (Lopez 2001; Lopez and Gormley 2002; Lopez and Hsu 2002). Self-splitting and other-splitting have also correlated positively with hypercompetitive attitudes, whereas all three SI factors also displayed inverse connections with more adaptive attitudes about competing with others (Watson et al. 2001). In a sample of obese and bulimia nervosa women patients, SI total scores correlated positively with the number of lifetime and occasional sexual partners, with the number of intimate relationships lasting at least 6 months, and with having sex outside of a partnership (Zmolikova et al. 2016). SI also correlated negatively with the age of first coitus and with sexual satisfaction. In short, the SI predicted maladjustment in the sexual relationships of these patient groups.

Conclusion

The Splitting Index is a theoretically focused and psychometrically sound instrument for measuring the defense mechanism of splitting in representations of the self, family, and others. Studies confirm the potential of this instrument for

clarifying borderline personality functioning, self-instability, and relationship problems. Future uses of this scale will presumably continue to address each of these issues. The SI could also clarify other questions about personality. The theoretical perspectives of Kernberg (1985), for example, suggest that the SI might be useful in examining not only borderline personality functioning, but personality disorders more generally.

Cross-References

- ▶ Borderline Personality Disorder
- ▶ Depression
- ▶ Discriminant Validity
- ▶ Narcissistic Personality Disorder
- ▶ Self-Esteem

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Spontaneity

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Synonyms

Being free; Lack of pretension; Living in the moment; Naturalness; Unconstrained

Definition

Spontaneity is defined as “an appropriate response to a situation or a new response to an old situation” (Moreno 1953 cited in Kipper and Hundal 2005, p. 120). Spontaneity is also viewed as a theory that is claimed as the bedrock of psychodrama – “a method of clinical intervention and group therapy” (Moreno 1941, 1953, 1964 cited in Kipper 2000, p. 33). On the other hand, spontaneity is also seen as a way of life or philosophy (Kipper and Hundal 2005). This two-pronged perspective on spontaneity is detailed as follows: “as a philosophy, the idea of a spontaneous person reflected a way of living and a general outlook on life that valued taking advantage of living ‘in the moment’” (Kipper and Hundal 2005, p. 119). As a therapeutic agent, spontaneity was said to be a specific curative factor believed to increase openness, reduce inhibitions, and enhance one’s psychological well-being (Kipper and Hundal 2005).

Introduction

In psychology, studies conducted on spontaneity are scarce. Nonetheless, the proponent frequently noted for developing a classical theory of spontaneity is J. L. Moreno. The classical theory’s major characteristics were summarized succinctly by Kipper (2000) to include the notion of spontaneity

as a form of energy that cannot be stored and therefore must be utilized in an all-or-none fashion. Apart from this, spontaneity is also viewed as a skill that can be investigated empirically and honed through coaching. Finally, spontaneity has been embraced as a barometer of psychological health and has been closely linked with positive well-being (Kipper 2000).

Twofold Nature of Spontaneity

Taking off from the last point, Meyer (1941) maintains that spontaneity is the “all important characteristic quality of a person” (p. 153) that deserves investigation, honing, and veneration. Moreno (1955) explicitly regarded spontaneity alongside creativity as the “primary principles of existence.” Moreno further notes that spontaneity is the virtuous human character that reveals that human beings are not mere “automatons.” Instead, human beings are bestowed with the capacity for initiative and self-determination (Moreno 1955).

Despite this dominant thinking that spontaneity is a positive human trait, literature would also caution us about the negative features of spontaneity. According to Kipper et al. (2010), spontaneity may “manifest as overt behaviors characterized as honest, uninhibited and free, and in accordance with one’s natural tendency” (Kipper et al. 2010, p. 39). However, spontaneity may also appear as pathological when displayed as “an uncontrolled and uncensored response often as an acting-out behaviour expressed with disregard to social conventions and cultural mores” (Kipper et al. 2010, p. 39). These dual perspectives on spontaneity allow us to see spontaneity in a more holistic approach, striking a balance between the good and the bad features of this construct.

Measuring Spontaneity

As a psychological construct, authors have acknowledged that spontaneity can be investigated scientifically, albeit, with difficulty. This difficulty can be traced to the discourses on the nature of

spontaneity. Moreno's earlier view on spontaneity has leaned on the idea of an invisible psychological energy that may lead to a response, hence, "a state of readiness" (Kipper 2000, p. 35). In Moreno's terms, spontaneity "propels the individual towards an adequate response to a new situation or a new response to an old situation." In this form, spontaneity proves to be difficult to observe. Later, this definition evolved, by dropping the word *propels*. Thus, spontaneity now refers to the actual response itself (Kipper 2000). As a behavior, spontaneity now becomes more accessible for investigation to psychologists.

Despite this difficulty, spontaneity has been studied across the years. Moreno is recognized as the pioneer proponent of a spontaneity test. The test promoted by Moreno involves asking the "participants to give impromptu responses to given 'life' situations of varying levels of difficulty and had jury members estimate a 'spontaneity quotient' to reflect the speed of reaction to the situation" (Kellar et al. 2002, p. 35). Clearly, the test used by Moreno was not standardized. However, as noted by Kellar and colleagues (2002), the need to measure spontaneity as a trait was addressed through a number of personality tests that have incorporated a measured spontaneity as a subscale. Still, the need to come up with a scale that solely and accurately measures a person's level of spontaneity has been recognized. Collins et al. (1997) developed the 58-item Personal Attitude Scale (PAS) to measure spontaneity. Later, a revised version of this test was developed that was referred to as the PAS-II. The items included in this test were informed by the six indicators of a spontaneous behavior, namely, "(a) it is novel and creative; (b) it is immediate; (c) it is adequate and appropriate; (d) it occurs easily and effortlessly; (e) the individual acts with total involvement; and (f) the individual is in control of his or her actions, which are not impulsive" (Kellar et al. 2002, p. 36). Later, Kipper and Hundal (2005) have constructed two inventories, namely, the Spontaneity Assessment Inventory (SAI) and the Spontaneity Deficit Inventory (SDI) which are measures of spontaneity and the lack of spontaneity, respectively (Kipper and Hundal 2005).

Linking Spontaneity with Other Psychological Constructs

Studies on spontaneity have focused on other psychological constructs that have revealed significant associations with spontaneity. One association that dates back to Moreno's classical theory is between spontaneity and creativity. This was validated by the investigation conducted by Kipper et al. (2010) showing a positive relationship between the two constructs. In the same study, they also tested the connection between spontaneity and impulsivity. The interest in these constructs is rooted in the observation that these two share a common expression, in particular, "acting without forethought" (Kipper et al. 2010). The authors, however, assert that the two are contradictory personality constructs. The findings from their investigation reveal that "spontaneity and impulsivity are actually incompatible constructs – the higher the spontaneity, the lower the impulsivity and vice versa. The difference between spontaneity and impulsivity is also expressed in terms of their relationship to creativity. . . spontaneity appeared to be positively related to creativity, whereas impulsivity did not correlate with creativity at all" (Kipper et al. 2010, p. 48).

Spontaneity has also been associated with play as these two constructs are viewed as having mutual features such as "the ability to take risks, express self, be childlike, be at ease, be relaxed, act quickly, and be creative" (Kellar et al. 2002, p. 38). A work that looked into this has shown a positive correlation between spontaneity and playfulness (Kellar et al. 2002).

Interrogating the Classical Theory of Spontaneity

In Moreno's theory, spontaneity is regarded as having various forms, including pathological spontaneity, which essentially means the absence of spontaneity. Spontaneity and nonspontaneity were viewed as opposing poles of a continuum. Spontaneity is regarded positively by virtue of its association with mental health, whereas

nonspontaneity is viewed as a barometer of negative well-being.

Kipper and Hundal (2005) clarified the connection between the two constructs by empirically showing a strong connection between the two. In their article, they maintained that these two constructs “both fulfill vital functions in life and, therefore, coexist within the healthy person. . .spontaneity and nonspontaneity represent two separate continua, rather than the traditionally held notion that the two represent the two extreme ends of one continuum” (Kipper and Hundal 2005, p. 127).

Conclusion

In sum, the two constructs—spontaneity and nonspontaneity are proposed to be found in distinct bands of human traits. Most crucial here is the proposition that nonspontaneity is not to be taken automatically as detrimental to one’s psychological health but may actually possess a survival function as it allows for addressing mundane and practical routines or challenges. Hence, a person can, therefore, be described as manifesting spontaneity at one occasion and nonspontaneity in another, relative to what is required and appropriate in a given situation.

Cross-References

- ▶ Creativity
- ▶ Impulsivity
- ▶ Playfulness

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Spontaneous

- ▶ Creativity

Spranger, Eduard

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Eduard Spranger, born 1882 in Berlin (Germany), was one of the most important representatives of a human-scientific approach to mental life. He contributed to the disciplines of education, philosophy, psychology, and the humanities. He died in 1963 in Tübingen.

Early Life and Educational Background

Spranger “majored” in philosophy and received his doctoral degree with an analysis of the epistemological and psychological foundations of historiography in 1905.

Professional Career

Spranger’s *Habilitation* on Wilhelm von Humboldt and the ideal of humanity was accepted at

the University of Berlin in 1909. Three years later he became full professor for philosophy and pedagogy at the University of Leipzig. He left for the University of Berlin in 1919 where he worked on his psychological books “Lebensformen” (originally published in 1914 but significantly expanded and revised in the 1921 edition) and “Psychologie des Jugendalters” (published 1925). Following his teacher Wilhelm Dilthey (1833–1911), Spranger applied the idea of a *geisteswissenschaftliche* (human-scientific) psychology to “personality” and youth research.

During German fascism (1933–1945), Spranger can be considered symptomatic for the attitudes and actions of politically oriented national-conservatives who meandered between acceptance, resignation, and opposition towards the party in power. Although some papers during that time indicate his opposition towards the dominant political system in Germany, he decided to keep his academic chair and taught until 1945. After conflicts with American and Soviet administrators in Berlin, he accepted a chair in philosophy in Tübingen where he retired in 1950.

Research Interests

In his personality psychology, Spranger (1921/1928) developed six ideal types of individuality. The *theoretic type* focuses on intellectual or scientific pursuits. The intellect, pure knowledge, and truth for itself stand above all for this type, certainly above feeling and desiring or other similar dimensions of human mental life. The *economic type* applies the intellect to commercial purposes and utilitarian goals whereby technical knowledge and pragmatic interests are combined with an egotistical attitude. For the *aesthetic type*, embodied in the artist, the art lover or in the individual who has an inner vision or a rhythm for works of art, technical mastery is less relevant than a state of pure contemplation and an imaginative grasp that transforms the powers of emotion. Experiences and feelings are cherished by the aesthetic type, whereas logical reflection is abandoned. The *social type*, who lives in and

through others, is convinced that all life is related. This idea is grounded in a love that sees other people as carriers of value. For Spranger, this attitude had more a religious than a political dimension. The *political type* values the will to power and the idea of *knowledge is power* as means of control. Truth serves power and the will to live becomes more important than facts. Rhetoric, characteristic of the political type, can take possession of the whole personality. For the *religious type*, the highest value arises through salvation, conversion, or revelation, whereby belief is more important than traditional scientific knowledge. For Spranger, all six types are connected with ethics and values, whereby the theoretical type embraces an ethics of general legality and objectivity, the economic type a utilitarian ethics, the aesthetic type an ethics of inner form and harmony, the social type an ethics of helpful love and loyalty, the political type an ethics of a will to power, and the religious type an ethics of blessedness in God.

Spranger employed a human-scientific “method” of *understanding* for deriving these types. Yet, whereas Dilthey, the founder of a human-scientific psychology, recommended re-experiencing, sympathy, and empathy as significant sources of understanding, Spranger moved beyond individuals and applied understanding to a culture and to a comprehension of the objective cultural connections, including historical and social conditions, from which “personality” could be grasped. In the process of understanding, Spranger attended to larger meaning relations that may not be given to individual subjectivity.

It would be misleading to assume that Spranger intended to develop a personality psychology in a current empirical or conceptual sense. The main title in the German original translates as *Forms of Life* (Lebensformen) rather than *Types of Men* (English book title), doing justice to the notion that a *form of life*, a term now associated with Ludwig Wittgenstein (1889–1951), expresses an individual that embodies or fulfills a personality in a particular cultural context rather than a fixed trait or a state.

Spranger uses the term *personality* in the sense of inner wealth connecting it with a normative connotation. The description of forms of life results from an intellectual academic abstraction that achieves the quality of a *Gestalt* and corresponds to basic ethical systems in a given culture. The types are *idealtypic* constructions that represent a tendency and are neither isolated in empirical reality nor pure, but mixed and historically limited. Sometimes a form of life requires adding subtypes (e.g., Spranger derives various religious subtypes). As a *human-scientific* (a term that appears in the subtitle of his German book) psychologist, Spranger was interested in a generalized perspective while being aware that a typical form of life does not transcend time and space and that a better understanding of types of personalities around the world requires continuing research. The concept of forms of life and the actual types described by Spranger were intended to help psychologists understand how and why persons conduct their real lives.

Spranger had a significant influence on Gordon Allport's (1897–1967) personality psychology. His ideas on value orientation and some of his "types of men" were transformed into psychological scales and measures. However, his relevance is conceptual in that he understood the relationship between culture and personality, or between forms of life and history. In order to make sense of the actions of a person in a given society, according to Spranger, psychologists need to understand the larger context, the lifeworld, and the ethical orientation of a person rather than just personality.

Spranger's work can be used as a benchmark against which one can measure how much German, European, or other forms of life have changed in a century. For instance, one can ask what form of life has gained dominance in North American culture or about the ethical consequences of reinforced economic forms of life. Given the historical and cultural constraints that Spranger put on his own theory, it is feasible to keep his personality psychology relevant in approaches that ask what it means to conduct life as a person in a particular historical and social context.

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SSSM

- ▶ [Standard Social Science Model \(SSSM\) of Personality](#)

SSS-V (Form 5)

- ▶ [Sensation Seeking Scale](#)

Stability

- ▶ [Homeostasis](#)

Stability – Cohesion, Dependability, Certainty

- ▶ [Environmental Stability](#)

Stable or Unstable Self-Esteem

- ▶ [Self-Esteem Instability](#)

Stages of Ego Growth

- ▶ [Psychosocial Stages of Development \(Erikson\)](#)

Standard Social Science Model (SSSM) of Personality

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Synonyms

Blank slate; Empiricists; Social constructionists; SSSM

Definition

The standard social science model is the notion that the mind is a blank slate, and our social applications, morals, and practices are learned.

Standard Social Science Model of Personality

One of the most contentious arguments regarding human psychology is whether the mind is a “blank slate” or equipped with evolved domain-specific mechanisms. In the past, the notion that humans are born as blank slates dominated the social sciences, but recent shifts in cognitive research have provided us with a better understanding of how the human mind functions (Pinker 2002). As a result of these advances, the blank slate approach has largely been abandoned. The purpose of this entry is to revisit the blank slate approach by reviewing the *standard social science model* (SSSM) that was described by Tooby and Cosmides (1992) as well as their proposed alternative model.

Standard Social Science Model

It has sometimes been argued within the social sciences that the human mind is something akin to a tabula rasa (blank slate) at birth (see Pinker 2002 for an extended discussion). Tooby and Cosmides (1992) argue that the blank slate concept has

played an important role in limiting advances in the social sciences. Consequently, they created the SSSM as a rhetorical technique to capture views that they believe are consistent with the idea of the blank slate. According to Tooby and Cosmides (1992), adherents of the SSSM believe that the human brain is a general-purpose cognitive device that is almost exclusively shaped by culture. As a result, differences between individuals must be explained by the social environment and learning rather than biology. In essence, Tooby and Cosmides (1992) argue that proponents of the SSSM deny that evolved psychological and physiological adaptations play much of a role in human behavior. However, the SSSM created by Tooby and Cosmides (1992) has been criticized as presenting a false dichotomy between the views of social scientists and their own views (e.g., Richardson 2007; Wallace 2010).

The Integrated Model

Tooby and Cosmides (1992) argued that their *integrated model* – which is also sometimes referred to as the integrated causal model – should replace the SSSM model because it combines culture and evolutionary biology (i.e., it is a model that integrates the ideologies of different sciences; Tooby and Cosmides 1992). This integrated model is based on decades of advancements in cognitive psychology, evolutionary biology, and neuroscience, which Tooby and Cosmides (1992) believe has shown that an understanding of human behavior requires models of nature-nurture interaction that are informed by evolutionary theory and grounded in a computational model of the mind. The integrated model proposes that the design of mental programs is universal (i.e., an innate system; Pinker 2002). Supporters of the integrated model are focused on the similarities in human behavior but do not disregard that cultural variation exists (Mallon and Stich 2000). However, the integrated model often explains cultural variation as being due to the separation of ancestral groups and the social innovations that helped them survive in particular environments (Pinker 2002). According to Tooby

and Cosmides (1992), the integrated model focuses on how individuals created culture in order to survive, whereas the SSSM suggests that culture creates individuals.

How Do These Two Models Influence Personality?

Tooby and Cosmides (1992) proposed the integrated model based on the notion that the social sciences do not consider biology, evolution, and cognitive influences on human behavior. However, there is evidence that contradicts their belief because the social sciences do consider the role that evolutionary processes have played in human psychology. For example, neuroscience research has shown that certain personality traits (e.g., extraversion) can be traced back to neurobiological systems (e.g., dopamine reward systems; see Allen and DeYoung 2015 for a review). Moreover, it is commonly agreed that personality traits are continuous variables that are heritable (i.e., they have a genetic component), but are also influenced by one's social environment (Nettle 2007). For example, research that has been conducted using identical twins has shown that personality traits are influenced by both genetics and environmental forces (e.g., non-shared environment; Bouchard and McGue 2003).

Results suggesting a limited role for environmental forces on human behavior may be unsettling to some individuals because these findings are sometimes used to argue that individuals are incapable of changing. However, there is an abundance of research showing that individuals are capable of changing. For example, the adoption of a malleable mind-set – as opposed to a fixed mind-set – has been shown to be beneficial in certain contexts (e.g., intelligence) that are often considered to be fixed (e.g., Blackwell et al. 2007).

Conclusion

The debate concerning the role that evolved psychological mechanisms play in particular psychological processes is extremely important for

the field of psychology. In an attempt to advance this debate, Tooby and Cosmides (1992) created the SSSM to characterize the typical approach adopted by social scientists. That is, Tooby and Cosmides (1992) argued that adherents of the SSSM believe that the human brain is a general-purpose cognitive device that is almost exclusively shaped by culture and that evolved psychological and physiological adaptations play a very limited role in human behavior. The SSSM has served as a powerful rhetorical device, but it has been criticized as a “straw man” that presents a false dichotomy between the views presented by Tooby and Cosmides (1992) and those of modern social scientists.

Cross-References

- ▶ [Behavioral Genetics](#)
- ▶ [Collectivistic Cultures](#)
- ▶ [Culture](#)
- ▶ [Environmental Conditions and the Development of Personality](#)
- ▶ [Evolutionary Perspective](#)
- ▶ [Evolutionary Psychology](#)
- ▶ [Evolutionary Psychology and the Emotions](#)
- ▶ [Individualistic Cultures](#)
- ▶ [Parental Influence on Personality Development \(Adler\)](#)
- ▶ [Role of Peers in Personality Development, The](#)
- ▶ [Sex Differences in Personality Traits](#)
- ▶ [Twin Studies](#)

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Standardized Testing

- ▶ [High Stakes Testing](#)

Standards

- ▶ [Morality](#)

Stanford-Binet Intelligence Scale

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Synonyms

[Fifth edition \(SB5\)](#); [SB5](#); [Stanford-binet intelligence Scale](#)

Introduction

The Stanford-Binet Intelligence Scale – Fifth Edition (SB5; Roid [2003a](#)) is a comprehensive, norm-

referenced, individually administered test of cognitive ability for individuals aged 2–85+ years. It is comprised of ten subtests and takes approximately 45–75 min to complete the entire battery and 15–20 min to administer the abbreviated battery. The SB5 measures five cognitive factors across both the verbal and nonverbal domains. These five cognitive factors are loosely based on Cattell-Horn-Carroll theory and selected specifically for their correlation to academic achievement, giftedness, and overall reasoning skill (Roid and Pomplun [2012](#)).

Use and Purpose

The SB5 is used in conjunction with other assessment tools for the identification of disabilities in child, adolescent, and adult populations (Johnson and D'Amato [2005](#)). It is particularly useful for measuring cognitive ability of individuals at the extreme ends of the bell curve due to the fact that it includes specific low-end and high-end items, and examiners can calculate an extended IQ for high- or low-functioning individuals (Roid [2003d](#)). For low-functioning populations or young children, the SB5: (a) has extensive manipulatives and interactive subtests, (b) is designed to be administered in a way that allows for frequent shifting between required tasks, and (c) publishers released an early childhood assessment version for children aged 2–7 or for any individual suspected of low-functioning (i.e., IQ below 80).

Administration and Description of Subtests

Administration of the SB5 starts with two routing subtests to obtain an individual's basic level of cognitive functioning. This routing procedure shortens administration time by allowing the examiner to start at blocks of items of expected difficulty tailored to each examinee. The SB5 consists of ten subtests that measure five factors of cognitive ability. These cognitive factors of knowledge, quantitative reasoning, visual spatial processing, working memory, and fluid reasoning

are all assessed within both verbal and nonverbal domains. Verbal subtests require examinees to use language and printed material to complete tasks, whereas nonverbal subtests require limited receptive language skill and allow the subject to respond using gestures or other nonverbal means of communication. The majority of the subtests are not timed.

Examiners can also elect to administer subparts of the SB5. These options include administration of only: (a) the two routing subtests to obtain an abbreviated IQ, (b) the verbal subtests to obtain a verbal IQ, or (c) the nonverbal subtests to obtain a nonverbal IQ. Administration of the nonverbal IQ can be helpful in cases of suspected or documented hearing impairment, autism, speech/language disorders, non-native English speakers, or other conditions where verbal ability may be impacted or limited (Roid 2003b).

The Five Cognitive Factors of the SB5: How They Are Measured

Fluid reasoning is defined as the ability to solve new problems (Roid and Pomplun 2012). The verbal fluid reasoning subtest requires examinees to describe cause-and-effect in pictures presented, and later, more advanced items include verbal absurdities (identifying what is odd about a statement, e.g., “it was warm outside, so Cecilia made sure to wear her snow boots to school”) as well as analogies (e.g., “rug is to floor as sheet is to _____”). The nonverbal fluid reasoning subtest consists of a series of matrices the individual is asked to solve.

Knowledge is overall general information a person has acquired (Roid and Pomplun 2012). The verbal knowledge subtest (a routing subtest) is simply a vocabulary task during which the examinee is asked to define a series of words. The nonverbal knowledge subtest includes procedural knowledge (the examinee demonstrates knowledge of items in pictures through gestures) and picture absurdities (the examinee is asked to point and explain what is odd about a picture).

Quantitative reasoning includes solving mathematical problems and comprehension of

numerical concepts (Roid and Pomplun 2012). Verbal quantitative reasoning is assessed with mathematical word problems. Nonverbal quantitative reasoning is assessed through solving pictorial problems, using blocks and counting rods.

Visual spatial processing is the ability to see visual patterns (Roid and Pomplun 2012). Verbal visual spatial processing is assessed with items using verbal descriptions of spatial orientation and map use. Nonverbal visual spatial processing is assessed using a form board (fitting puzzle pieces into a structured puzzle) and form patterns (using plastic shapes to replicate a picture of an object).

Working memory is the ability to store, sort, and recall verbal or visual information (Roid and Pomplun 2012). Verbal working memory is measured through repetition of sentences, or at more difficult levels, recalling the last word in a series of sentences. Nonverbal working memory is assessed by using plastic cups to hide a toy and block tapping task (i.e., asking the examinee to copy the examiner’s block-tapping movements) at more advanced levels.

Testing Materials

Materials in the SB5 test kit are three administration booklets designed in an easel format that contain all examiner administration directions and examinee pictorial items. This enables examiners to easily administer test items and score items on the record form conspicuously, while picture items are easily displayed for the examinee. In addition, the test kit includes a number of test item manipulatives for early items to keep younger subjects engaged. There is a record form which is used by the examiner when testing to track subject performance on items for scoring. Finally, each test kit includes an examiner, technical, and interpretive manual.

Scoring and Interpretation

The SB5 can be hand-scored or computer-scored using the SB5 Scoring Pro, a Windows-based program. Scoring a comprehensive battery

produces many scores allowing for detailed interpretation, including an overall full-scale IQ score, an overall verbal IQ score, and overall nonverbal IQ score, and scores for each of the five cognitive domains. An abbreviated IQ score can also be derived from just administering the two routing subtests (vocabulary and object series/matrices). All scores have a mean of 100 with a standard deviation of 15. Additional information for each of these scores includes percentile ranks, confidence intervals, and age equivalents. Finally, each of the ten subtests is scored and produces a scaled score (mean of 10 and standard deviation of 3). The measure also provides criterion-referenced interpretation by calculating change-sensitive scores (CSSs), developed using item response theory (IRT). The CSSs are helpful in that they can be used as a metric to denote growth across two administrations.

Psychometric Properties

The SB5 was updated in 2003 and included a standardization sample of 4,800 participants from 2 to over 85 years of age. This sample was matched to align with the 2001 US census and stratified according to sex, age, race/ethnicity, socioeconomic status, and geographic regions (Roid 2003c).

Psychometric analysis results presented in the SB5 technical manual represent adequate reliability and validity for its intended purpose (Johnson and D'Amato 2005). One particular note is that the SB5 is highly correlated with measures of academic skill. While this high correlation enables examiners to make fairly accurate predictions of examinee academic performance, some critics note that it is not a true or "pure" measure of intelligence since (Kush 2005). Finally, the SB5 technical manual describes initial research to examine the factor structure of the instrument. Confirmatory factor analyses (CFA) provide evidence that the five-factor model (based on CHC theory) provided the best fit for the measure (Roid 2003c). Subsequent research using the SB5 standardization sample, however, has found inconclusive

support for this five-factor structure within the SB5 standardization sample (DiStefano and Dombrowski 2006), as well within independent samples (Canivez 2008; Williams et al. 2010).

Conclusion

The SB5 is a psychometrically-sound, theoretically-based measure of intelligence. It is unique among comprehensive, norm-referenced measures of assessment for two main reasons. First, it is ideally suited for the assessment of intelligence in extreme populations (i.e., individuals of low-cognitive functioning, very young examinees, individuals of potential gifted and talented status), both due to how it is administered and scored. Second, nonverbal assessment is completed across all five CHC factors included on this measure, allowing for a theoretically complete nonverbal profile.

Cross-References

- ▶ [Ability Traits](#)
- ▶ [Emotional Intelligence](#)
- ▶ [Personality and Cognitive Abilities](#)

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Stanton, Steven

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Steven J. Stanton is an Assistant Professor of Marketing at Oakland University in Rochester, Michigan.

His research is interdisciplinary and spans both psychology and marketing, with a focus on motivation, decision-making, consumer behavior, and behavioral endocrinology.

Educational Background

Dr. Stanton earned his B.A. in economics and psychology with honors in 2002, his M.S. in Psychology in 2006, and his Ph.D. in social-personality psychology and biological psychology in 2008 – all from the University of Michigan,

Ann Arbor. Stanton worked under the mentorship of Dr. Oliver C. Schultheiss for his M.S. and Ph.D. and Dr. Wilbert J. McKeachie for his Honors undergraduate thesis.

Professional Career

After earning his Ph.D., Dr. Stanton worked as a postdoctoral fellow at Duke University from 2008 to 2013 in collaboration with Scott Huettel, Gavan Fitzsimons, Kevin LaBar, Michael Platt, and many others. Since 2013, he has been an Assistant Professor of Marketing, in the Department of Management and Marketing, at Oakland University. He has authored 30 publications in journals spanning a variety of disciplines such as *Psychological Science, Journal of Research in Personality, Journal of Business Ethics, Marketing Letters, Personality and Individual Differences, Hormones and Behavior, Psychoneuroendocrinology*, and more. He presently serves on the editorial board of the *Journal of Research in Personality*.

Research Interests

Dr. Stanton's primary research interests have evolved over time but remain linked to some consistent themes which include motivation, decision-making, consumer behavior, and behavioral endocrinology. Behavioral endocrinology is the study of how hormones are linked to behavior – in many ways, this forms a thread that connects most of Dr. Stanton's research. First, he has published on the links between steroid hormones (e.g., testosterone, estrogen) and individuals' motivation to achieve power and dominance, which makes the case that our motives have biological roots. Second, Dr. Stanton is actively researching links between hormones and how we make decisions, for example, the link between our testosterone levels and how economically risky or risk averse we are. Third, Dr. Stanton's most recent research has focused on the relationship between hormones and the choices that we make as consumers. In all of these lines of research, hormones are often

treated as personality variables in that they are stable individual differences that can be used to predict and understand human behavior.

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Startle

► Startle Reflex

Startle Reaction

► Startle Reflex

Startle Reflex

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Synonyms

Acoustic startle; Startle; Startle reaction; Startle response

Definition

The startle reflex is a defensive response elicited by the sudden onset of an intense stimulus, particularly

in auditory, tactile, or visual modalities. In humans, acoustic startle is most frequently measured, and is characterized by rapid onset muscle movements in response to a burst of auditory stimulation, as described by Davis (1984, p. 289): “blinking of the eyes, forward head movement [...] widening of the mouth and occasional baring of the teeth, raising and drawing forward of the shoulders, abduction of the upper arms, bending of the elbows, pronation of the lower arms, flexion of the fingers, forward movement of the trunk, contraction of the abdomen, and bending of the knees.” The posture thus induced may help protect against the receipt of a blow, which would normally be associated with the sudden and intense excitation of multiple senses.

Introduction

The startle reflex is a defensive response elicited by the sudden onset of an intense stimulus. Startle measurements have proven to be a versatile tool, because the reflex can be both potentiated and attenuated depending on a variety of psychological factors. In addition, as the startle reflex can be measured across a host of nonhuman animals, insights can be translated across species. This entry will focus on the acoustic startle, given its wide usage among investigators. After outlining the basic experimental setup used in human startle research and the neural pathways implicated in acoustic startle, the modulation of the startle reflex is considered. Finally, research using startle measurements to shed light on individual differences, particularly in relation to anxiety, is presented.

Experimental Setup

In human experiments, the startle reflex is most commonly elicited by loud (often around 90–115 dB) bursts of white noise with short rise times and durations and is measured around the orbicularis oculi muscles of the eyelid using surface electromyography (EMG). Participants are often asked to perform a task designed to modulate their startle response, with startle probes

presented in a relatively unpredictable fashion at points of interest in each experimental trial. Researchers most commonly report the magnitude of startle responses elicited.

Though this very basic setup describes much of the research that will be presented, cutaneous (e.g., a sudden air puff directed at exposed skin) or visual elicitation of the startle response is also possible. In addition to measuring startle magnitude, some researchers also assess startle latency or the inhibition of startle by preceding auditory stimuli (pre-pulse inhibition). For more extensive treatment of methodological considerations when recording the startle reflex in humans, Blumenthal et al. (2005) provide guidelines for the parameters of importance in human acoustic startle research.

Neural Pathways

Just three major synapses are thought to comprise the primary acoustic startle pathway in rodents: cochlear root neurons, nucleus reticularis pontis caudalis neurons, and spinal cord motoneurons. Modulatory pathways are also thought to involve the amygdala (considered vital for fear potentiation), the bed nucleus of the stria terminalis (for more generalized anxiety potentiation), and possibly also the nucleus accumbens (for appetitive attenuation). The neural basis of startle and its modulation, though quite well understood, extends beyond the scope of this segment, so interested readers are referred to Davis (2006) for an overview.

Startle Reflex Modulation

The startle reflex is modulated by experience, as well as by a range of state and trait variables. Perhaps the most widely known startle modulation effect is fear-potentiated startle (FPS). In a typical fear conditioning experiment, one stimulus functions as a danger stimulus and is consistently paired with electric shock (or other aversive outcome), whereas another stimulus consistently signals safety (i.e., it is never paired with an aversive outcome). FPS is usually exemplified by the potentiation of the startle response to the danger stimulus relative to the safety stimulus (known as differential fear-potentiated startle).

Although anticipation of aversive outcomes can certainly potentiate the startle response, FPS

does not appear to just represent the anticipation of undesirable events. Experimental and lesion studies have demonstrated that FPS can be found when threat is not expected, without conscious awareness of the contingency between the danger stimulus and the aversive outcome, or even without the capacity to consciously perceive the danger stimulus. FPS after conditioning can also be neutralized by the disruption of memory reconsolidation with propranolol, rendering startle responses to the danger stimulus comparable to the safety stimulus, while expectation of shock and skin conductance responses (sweating) remain entirely intact (Soeter and Kindt 2010).

It has therefore been argued that the potentiation of the startle reflex during conditioning reflects the negative valence of the danger stimulus following its pairing with an aversive outcome. The link between startle magnitude and stimulus valence (i.e., whether the stimulus is considered positive or negative), or the “primed affective state” it induces, was also demonstrated in experiments by Lang and colleagues, in which perception of positive and negative images attenuated and potentiated startle responses, respectively, relative to neutral pictures (reviewed in Bradley et al. 1999). In contrast, skin conductance responses indexed general arousal irrespective of valence. This relationship between affect and startle magnitude has been demonstrated in an appetitive/aversive conditioning study, in which cues predictive of snack consumption or electrical shock also attenuated or potentiated the startle response, respectively, relative to a neutral stimulus.

The modulation of startle by fear conditioning or by affective valence displays moderate stability over time (in repeated assessments 1 month apart and 8 months apart). Stability appears to be lower when the same stimuli are used at test and retest, possibly due to habituation to the emotive images.

From an individual differences perspective, these findings suggest that startle responses could indicate participants’ idiosyncratic feelings toward different stimuli and situations. Given the reflexive and sometimes even nonconscious nature of startle modulation, such measures are presumably resistant to demand effects and dissimulation. However, precisely what is to be

expected from the startle response will depend not only on individual differences but also on when startle is measured and on task demands. For example, during picture viewing, startle seems to reflect affective valence, but during the anticipation of pictures, startle may be non-specifically potentiated or may reflect the sum of valence and anticipation.

Considering dynamic changes in defensive behavior in response to threat could explain some timing effects. Specifically, the threat imminence model proposes differential engagement of reflexes according to the imminence of threat (see Table 1), with startle increasing with impending danger but rapidly dropping when active defensive strategies are engaged (Low et al. 2015). Low et al. (2015) found that startle became greatly potentiated immediately before an unavoidable aversive outcome but was inhibited when active avoidance was possible, perhaps reflecting a switch from vigilance to action with increasing threat imminence. Hence, interpretations of startle responses should consider the evolutionary significance of the startle reflex and the defensive purpose it is thought to serve. Bach (2015), for example, has developed a Bayesian model that predicts startle responses according to

Startle Reflex, Table 1 Stages in the threat imminence model

Stage	Associated behavior	Example
Pre-encounter	The animal is in a potentially dangerous environment and displays general vigilance	A zebra is grazing but still scans and listens for possible sources of danger
Post-encounter	A threatening stimulus has been identified and is selectively attended to	The zebra has spotted a pride of lions and now watches their behavior vigilantly
Circa-strike	Contact with the predator is imminent, and the animal must engage an active defensive strategy such as fight or flight	When one of the lions charges, the zebra runs away as fast as it can

the cost and likelihood of receiving a blow, relative to the cost of producing a startle. In this model, valence and timing effects might be explained by the different probabilities of threat associated with perception of positive and negative stimuli and the cost of a blow when delivered during anticipation of such stimuli.

Individual Differences

Given the modulation of startle by fear and anxiety, startle responses have been extensively studied in relation to individual differences in anxiety-related traits, as well as predisposition to and current diagnosis of anxiety disorders. It appears that potentiation of the startle reflex in response to negative cues may be most apparent in those with high fearfulness, harm avoidance, stress reactivity, or trait anxiety, particularly when combined with a defensive coping style. High levels of these anxiety-related traits may also preclude the attenuation of startle in response to positive cues. Differences in startle responses as a function of anxiety have been found as early as 4–8 years old, and startle responses are also potentiated in children and adolescents with familial risk for anxiety. In line with adult studies, children at risk of anxiety have been found to display enhanced startle potentiation to negative cues and an absence of attenuation in response to positive cues.

As noted, startle responses might be used as an indicator of feelings toward particular stimuli. Phobic patients display markedly potentiated responses to phobia-relevant pictures relative to non-phobic individuals. Similarly, patients with panic disorder display marked potentiation of the startle reflex when enclosed in a small dark room. Consistent with the threat imminence model, those patients who chose to escape the room (an active defensive strategy) displayed attenuated startle responses relative to those who stayed. Individuals at risk of developing anxiety disorders may also show disorder-relevant responses. High fear of internal bodily sensations (a risk factor for panic disorder) has been found to be related to heightened startle responses in anticipation of bodily arousal provoked by hyperventilation, but not to anticipation of external threats such as electric shock.

In addition to heightened responses to specific threat stimuli, those at risk of or diagnosed with an anxiety disorder have been found to display abnormal startle responses during fear learning, characterized by excessive responding to safety cues, as well as deficient safety learning during extinction, when danger cues are no longer associated with an aversive outcome (Gazendam et al. 2013). Several studies have indicated that deficits in safety learning are associated with individual differences in other physiological measures, such as resting heart rate variability and heart rate acceleration/deceleration in response to stimuli, which may in turn relate to differences in emotional stability and control. However, differences in startle responding associated with disorders are certainly not always trait-like risk factors and can vary with the course or severity of a disorder (see Grillon and Baas 2003 for a review) or in response to treatment.

Researchers have examined startle beyond anxiety disorders, though just one further case will be briefly considered here. The interpersonal-affective dimension of psychopathy, indicative of a callous temperament and possibly related to lower anxiety and fear levels, is related to deficient fear-potentiated startle and fear learning (Patrick 1994), and such fear learning deficits arise at an early age. Differential startle responses in relation to the affective dimension of psychopathy have been found in both criminal psychopaths and community samples. One possibility is that such learning and emotional impairments contribute to the difficulties individuals with psychopathy have in learning appropriate behavior, particularly with regard to violence.

Conclusion

The startle reflex is a valuable tool with which to explore individual differences. A range of experiences, states, and traits modulate startle responses. Due to the presence of startle across a range of species, it may prove particularly useful in elucidating the neurobiological underpinnings of individual variability. Researchers investigating individual differences in startle responses should

consider the imminence of threat and the possibility of engaging in fight or flight. Such considerations may be particularly important in clinical populations because patients likely diverge from healthy participants in the perceived imminence of threat and in their defensive strategies, not only in the negative affect associated with feared stimuli.

Cross-References

- ▶ [Amygdala](#)
- ▶ [Antisocial Personality Disorder](#)
- ▶ [Anxiety](#)
- ▶ [Classical Conditioning](#)
- ▶ [Extinction \(Conditioning\)](#)
- ▶ [Fear](#)
- ▶ [Fearfulness](#)
- ▶ [Harm Avoidance](#)
- ▶ [Negative Affect](#)
- ▶ [Panic Disorder](#)
- ▶ [Phobia](#)
- ▶ [Post-Traumatic Stress Disorder](#)
- ▶ [Psychopathy](#)
- ▶ [State Anxiety](#)
- ▶ [Trait Anxiety](#)

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Startle Response

- ▶ [Startle Reflex](#)

State Anxiety

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Synonyms

[Concern](#); [Fear](#); [Worry](#)

Definition

State anxiety is an acute form of anxiety experienced in a particular and temporary situation and distinct from trait anxiety (i.e., a dispositional and relatively chronic state of anxiety). Episodes are accompanied by both emotional (e.g., feelings of fear), cognitive (e.g. appraisals of threat), and physiological (e.g., activation of the autonomic nervous system) changes.

Introduction

State anxiety is a temporary experience of fear and arousal that is elicited from a real (e.g., a car careening toward you while crossing the street) or potential (e.g., concerns that you won't complete an assignment by the deadline) threatening situation (Spielberger 1972). There is considerable variability in the stimuli that elicit anxiety as well as the frequency and intensity with which anxiety is experienced. Similar variability is observed in how people cope with situational experiences of anxiety. Below is a summary of the emotional, cognitive, and physiological responses that accompany states anxiety, an review of (mal) adaptive responses and strategies used to cope with state anxiety, and an overview of common measures used to assess state anxiety.

Cognitive, Emotional, and Physiological Processes

The multifaceted responses associated with state anxiety reflect the interaction of bodily, affective, and cognitive processes that underlie the phenomenological experience of anxiety and help coordinate responses to threatening events. For example, influential work by Spielberger (1972) viewed state anxiety as consisting of distinct components: worry (i.e., preoccupation) and emotionality (i.e., arousal). Worry is conceptualized as a cognitive process that requires the acknowledgement of a stimulus and an assessment of it being a threat (i.e., an appraisal). Emotionality consists of arousal in response to a threat and includes a racing heart, sweating, feelings of coldness, and jitters.

The type of stimuli that initiates this process, strength of negative affect, and resulting physiological response (e.g., fight or flight) are particular to each person. As an anecdotal example, there is considerably variability in how much anxiety a person will experience prior to public speaking, with some individuals appraising the experience as a threat and feeling highly aroused while others do not experience threat and negative arousal.

Coping Mechanisms

The unpleasant feelings that accompany state anxiety will cause an individual to seek ways to address the situation and reduce anxiety (Spielberger 1972). These efforts to alleviate anxiety and responding to threat are known as *coping* and take many forms, some adaptive and beneficial and others maladaptive and harmful. A key distinction between different coping strategies is whether they are problem-focused or emotion-focused (e.g., Folkman and Lazarus 1980), with the former emphasizing how to directly address an anxiety provoking situation and latter emphasizing to minimize the negative feelings associated with anxiety. An individual's personal history often interacts with situational factors to shape how they respond to anxiety-provoking stimuli and whether the response is adaptive or not. The end result could range from task completion (e.g., finishing a paper before the deadline) to avoidance of the anxiety provoking situation (e.g., going out with friends instead of writing a paper). In circumstances where dealing with an anxiety-provoking threat is unavoidable, the intensity of anxiety will impact subsequent behaviors and performance. A classic demonstration of this point is provided by research on *optimal arousal*, which finds that task performance is best at moderate levels of anxiety, relative to either suboptimal levels of too little or too much anxiety (Fischer et al. 2008).

Measurements of State Anxiety

Traditionally, state anxiety has been assessed with relatively straightforward self-report measures. Indeed, early research by Krause (1961) suggested that participants' self-reports were a valid means of assessing temporary experiences of anxiety. From this perspective, if an individual reports that an internal or external cue is causing them to feel anxious, then it can be safely concluded they are experiencing a state of anxiety. Given the many outcomes associated with momentary experiences of anxiety, numerous

researchers have designed measures that can be easily implemented and widely used in both research and applied contexts.

One of the earliest measures was designed to specifically assess individual differences in anxiety amongst military recruits undergoing airborne training and employed a “fear thermometer” completed via self-report (Walk 1956). While this measure was task-specific, more generalized measures have been developed, including the Affect Adjective Check List (Zuckerman 1960), which contained a state anxiety subscale. The measure most used today is the State-Trait Anxiety Inventory (Spielberger et al. 1970), which consists of two sections, each comprised of twenty questions. One set of items targets trait anxiety while the other captures state anxiety (for a more comprehensive review see Ekkekakis 2013).

Aside from the consciously accessible components of anxiety captured by self-report data, there are also physiological manifestations of state anxiety that can be measured, including heart rate variability and galvanic skin conductance. Neuroimaging research has also examined the role of brain regions (e.g., the amygdala) in experiences of anxiety (Davis 1992). These are generally more challenging to administer relative to straightforward and face valid self-report inventories but help elucidate the biological and neurological components of state anxiety.

Conclusion

State anxiety is a distinct form of anxiety elicited by specific situations and stimuli and that lasts for a relatively brief duration. The state is associated with both cognitive and physiological processes that help coordinate responses (e.g., coping strategies). An individual’s response is tied to their own personal history, and they may engage in either productive or unproductive actions to alleviate anxiety. A number of psychologists have developed different methods to measure state anxiety, including easily used and validated self-report assessments.

Cross-References

- ▶ [Anxiety](#)
- ▶ [Emotion-focused Coping](#)
- ▶ [Fear](#)
- ▶ [Trait Anxiety](#)

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State Hope Scale

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Synonyms

[SHS](#)

Definition

Hope is operationalized as “a cognitive set that is based on a reciprocally derived sense of successful (a) agency (goal-directed determination) and (b) pathways (planning of ways to meet goals)” (Snyder et al. 1991, pp. 570–571) and is measured by The Hope Scale and the State Hope Scale (SHS). The SHS is a brief 6-item measure that takes less than 2 min to complete. Responses are rated on an 8-point Likert scale ranging from 1 (*Definitely True*) to 8 (*Definitely False*) with higher scores indicative of greater state hopefulness. The original SHS is the sole version of the measure which is only available in paper-based format.

Introduction

From its portrayal in mythological lore until its resurgence in the mid-twentieth century, hope has been characterized in numerous ways, including as both a human foible and as a virtue associated with spirituality (Snyder 2000). In the last half-century, researchers and clinicians have investigated hopefulness in an increasingly scientific manner, including its relation to mental and physical health outcomes, and its effectiveness as a characteristic to be bolstered therapeutically (Snyder 2000). Building on initial unidimensional models of hope that described it as positive expectations for goal attainment (Snyder et al. 1991), Snyder et al. (1991) conceptualized hope as a bidimensional construct comprised of one’s motivation toward attaining goals (agency) and ability to generate plans, and problem-solve, to achieve goals (pathways). Operating together, these aspects of hope are reciprocal and additive, contributing to goal-related cognitions and subsequent actions (Edwards et al. 2007). The precursor for the SHS was the Hope Scale which assessed dispositional hope; however, Snyder et al. (1996, p. 321) posited that a moment-to-moment sense of hopefulness existed, reflecting goal-directed cognitions in relation to a “particular time and more proximal events.” The SHS is a

6-item measure, scored on an 8-point Likert scale with anchor scores of 1 (*Definitely True*) to 8 (*Definitely False*), and meant to assess level of hope, in the current moment. There are no item reversals, and higher scores are reflective of greater state hope. Even-numbered items can be summed to obtain an agency subscale score, and odd-numbered items are summed to derive a pathways subscale. Total state hope score is computed by summing all items. Representative items include: “*There are lots of ways around any problem that I am facing now* [pathways],” “*Right now I see myself as being pretty successful* [agency],” “*I can think of many ways to reach my current goals* [pathways],” and “*At this time, I am meeting the goals that I have set for myself* [agency].”

Psychometric Properties

Initial evidence reported by Snyder et al. (1996) indicated that the SHS was a reliable and valid measure of state hope, with factor analyses confirming the two factors of agency and pathways. The SHS was normed on four samples of undergraduate college students (Snyder et al. 1996). For the overall SHS, Cronbach’s alphas ranged from .79 to .95 (Snyder et al. 1996). The agency subscale produced Cronbach’s alphas ranging from .76 to .95, and the pathways subscale had coefficient alpha values of .53 to .93 (Snyder et al. 1996). Test-retest reliability was established over a 1-month period with reliability coefficients varying from .48 to .93; it should be noted that given the temporal nature of state hope, SHS values are expected to differ at different time points (Snyder et al. 1996). To measure concurrent validity, Snyder et al. (1996) examined the association between the SHS and dispositional hope (.79, $p < .001$). Also, in the initial study, the SHS was a unique contributor to academic performance and, in another study, was predictive of dispositional hope when goal attainment and goal failure were experimentally manipulated (Feldman and Snyder 2000; Snyder et al. 1996). Since the original study, the SHS has been utilized

in numerous studies among a variety of populations including rural samples, psychiatric inpatients, homeless veterans, collegiate athletes, and women experiencing intimate partner abuse (Curry et al. 1997; Hou et al. 2016; Irving et al. 1997; Kelsey et al. 2011; Silverman 2016). Among numerous studies of college samples, the SHS has internal consistency values ranging from .90 to .95 for the overall scale, and .90 for both the agency and pathways subscales (Rand and Cheavens 2009); however, the SHS has produced lower internal consistency values, ranging from adequate to good reliability, among individuals with serious mental illness (Malinovsky et al. 2013). Recent examinations of the SHS among high school students in the United States using confirmatory factorial analyses have confirmed the two-factor representation of the SHS, and the bidimensional model has been replicated across age and sex groups (Martin-Krumm et al. 2015). In summary, the SHS demonstrates excellent psychometric properties in several populations supporting its bidimensionality, reliability, and construct validity.

Related Constructs

Hopefulness research indicates that hope is associated with a wide range of constructs. Snyder et al. (1991) describe in detail several constructs that are related, yet distinct, to hope including optimism, self-efficacy, and problem-solving abilities. Hope is also positively related to life satisfaction, quality of life, future orientation, and positive affect (Alarcon et al. 2013; Nsamenang and Hirsch 2015; Snyder 2002). Conversely, hope is associated with fewer symptoms of psychopathology and less neuroticism, negative affect, and pessimism (Arnau et al. 2007; Nsamenang and Hirsch 2015; Scioli et al. 2011).

Working Model and Hypothesis Testing

Snyder et al. (1996) present a working model for the conceptualization of state hope and purport that it is representative of one's moment-to-moment goal-related thinking relative to an

ongoing event. It is suggested, however, that one's level of dispositional hope likely sets a lower and upper limit for one's level of present-moment goal-directed thinking relative to a particular goal and in a specific context (Snyder et al. 1996). Snyder's conceptualization of state hope provides a better understanding of the temporality of hopefulness and how state hope affects various outcomes, including well-being, on a moment-to-moment basis while pursuing goals.

Applications

The SHS has been examined in many types of samples (e.g., college students, chronic health populations, caregivers, acute inpatient samples, nonclinical adults, and victims of natural disasters), demonstrating its utility across a variety of populations. The SHS is also useful for several purposes including measuring goal-directed cognition as a result of an intervention in an experimental design, examining how state hope is associated with ongoing goal-directed events and behaviors, and tracking the influence of goal-related thinking on affective states (e.g., ecological moment assessment). The SHS has clinical applications in monitoring the process of psychotherapy, measuring adjustment to stressors, and predicting performance outcomes in academics, athletics, and work arenas (Cheavens et al. 2005; Snyder et al. 2003). The SHS scale has been linguistically adapted for use with differing populations. For example, adaptations are now available for Mandarin-speakers (Kwok et al. 2015) and French-speakers (Martin-Krumm et al. 2015); unfortunately, the SHS has not been adapted as much as its counterpart measuring dispositional hope, the Hope Scale. All adaptations and translations of the scale are reported to retain high internal consistency, and the factorial constructs of the scale appear to generalize well across cultures.

Conclusion

The concept of state hope, as measured by the State Hope Scale, contributes to the understanding of

how moment-to-moment goal-related cognitions influence goal-directed behavior and, in turn, psychological, physical, and social well-being. Investigators across a wide range of research areas and populations have used the SHS to explore and understand the role of hope in aspects of performance in the classroom or career, health-related functioning, and overall resiliency.

Cross-References

- ▶ Exploratory Factor Analysis
- ▶ Hopefulness
- ▶ Mental Illness
- ▶ Neuroticism
- ▶ Pessimism
- ▶ Psychopathology
- ▶ Test-Retest Reliability

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State Self-Esteem Scale

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Definition

The State Self-Esteem Scale is a 20-item self-report measure of state self-esteem developed by Heatherton and Polivy in 1991. It consists of three subscales designed to assess specific facets of state self-esteem, namely, performance, social, and appearance state self-esteem.

Introduction

The State Self-Esteem Scale (SSES; Heatherton and Polivy 1991) is a widely used measure of state self-esteem in psychology research. It was developed by Heatherton and Polivy as a measure of momentary self-evaluations in three distinct domains: performance, social, and appearance state self-esteem. Although people possess a typical, or baseline, level of self-esteem that characterizes their self-evaluations generally, they also report fluctuations in self-esteem around their baseline (e.g., Rosenberg 1986; Savin-Williams and Demo 1983). The stable component of self-esteem is generally referred to as trait self-esteem, whereas fluctuating, momentary self-evaluations are referred to as state self-esteem.

Heatherton and Polivy developed the SSES specifically to assess these momentary fluctuations in state self-esteem. Respondents to the SSES indicate their degree of agreement with 20 statements on a 5-point scale (with scale labels corresponding to *not at all*, *a little bit*, *somewhat*, *very much* and *extremely*). The statements reflect self-evaluations in three distinct domains, namely, performance (e.g., “I feel confidence in my abilities”), social (e.g., “I feel that others respect and admire me”), and appearance (e.g., “I feel satisfied with how my body looks right now”) self-esteem. Scale items were adapted from the Janis Field Scale (Janis and Field 1959), which is a

multidimensional measure of trait self-esteem, as well as subsequent adaptations of that scale to the domains of body image (Pliner et al. 1990) and academic ability (Felming and Courtney 1984). Heatherton and Polivy focused on items that measured self-esteem within particular domains because of their conviction that changes in self-esteem may be more domain-specific than global. To emphasize that the scale focuses on momentary self-evaluations, it is titled “Current Thoughts,” and respondents are instructed to “answer what. . . you feel is true of yourself at the moment.”

The popularity of the scale reflects the fact that it is relatively short and easy to administer, face valid, and has sound psychometric properties, including evidence of its construct validity. The scale has also been validated in adolescent samples (e.g., Linton and Marriott 1996).

Psychometric Properties

The SSES demonstrates sound reliability and validity. Perhaps the most pertinent indicator of reliability for a state measure is internal consistency, which is consistently high for the scale as a whole and for each of its three subscales (Heatherton and Polivy 1991). The SSES also, however, displays modest test-retest reliability. Although a state measure need not display strong temporal stability (because it assesses non-stable aspects of self-esteem that fluctuate over time), part of self-reports on the SSES reflect individuals’ “average tone” of trait self-esteem. This fact can be also seen in its significant correlations with trait measures of self-esteem, depression, and anxiety (Heatherton and Polivy 1991). The scale is also sensitive to lasting changes in self-esteem that result from interventions designed to increase self-esteem (Heatherton and Polivy 1991; Linton and Marriott 1996).

As would be expected, however, the SSES also displays validity in its ability to measure short-term changes in self-esteem. Scores on the SSES are affected by favorable and unfavorable social comparisons (i.e., comparing oneself to others who are superior or inferior to oneself; e.g.,

Lyubomirsky and Ross 1997), negative performance feedback (e.g., Fein and Spencer 1997), and social exclusion (e.g., Baumeister et al. 2005; Twenge et al. 2007). Pertinently, the subscales demonstrate discriminant validity. Students' scores on the performance subscale of the SSES were particularly affected by their midterm grades; those with lower grades reported particularly low performance state self-esteem immediately after receiving their grades but displayed no changes in social or appearance state self-esteem (Heatherton and Polivy 1991). Similarly, the appearance subscale correlates with dietary restraint, dieting behavior, body size estimation, and satisfaction with current appearance, whereas the performance subscale does not. Similarly, the social state self-esteem subscale correlates with public self-consciousness and social anxiety, whereas the performance subscale does not.

One goal in the development of the SSES was to establish the psychometric distinctness of state self-esteem and mood. A popular earlier measure of state self-esteem (McFarland and Ross 1982) relies heavily on self-relevant emotions (e.g., feelings of pride, shame, and confidence). Although mood and state self-esteem correlate highly, they are conceptually distinct. To demonstrate the psychometric distinctness of the SSES from mood measures, Heatherton and Polivy showed that SSES subscales correlate more highly with each other than with measure of mood. Similarly, SSES and mood items load on distinct factors in factor analyses, supporting their distinctness. The SSES and mood measures also displayed differential patterns of change in response to self-relevant outcomes. Students' moods were generally lower after receiving their midterm grades, but only performance state self-esteem distinguished significantly between those who did relatively well or poorly.

Factor Structure

As noted, the SSES is designed to assess state self-esteem in three domains: performance, social, and appearance state self-esteem. Factor analyses support the existence of these three distinct factors (Heatherton and Polivy 1991; Bagozzi and

Heatherton 1994). Although a superordinate factor is also evident, supporting the practice of calculating a total score, the three subscales, as noted, display differential sensitivity to self-relevant experiences (e.g., performance failure). In practice, it is thus advisable for researchers to calculate separate subscale scores for use in analyses.

Conclusion

The SSES is a widely used measure of state self-esteem in psychology research. It includes three subscales designed to assess performance, social, and appearance state self-esteem. The scale and its subscales have demonstrated sound reliability and validity. The subscales demonstrate differential sensitivity to self-relevant experiences (e.g., social exclusion, negative performances). Factor analyses similarly support the existence of the distinct, though correlated, subscales.

Cross-References

- ▶ [Contingent Self-Esteem](#)
- ▶ [Fragile Self-Esteem](#)
- ▶ [Self-Esteem](#)
- ▶ [Self-Esteem Instability](#)

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State Testing

► High Stakes Testing

State/Trait Interactions

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Traits and states are among the most important concepts in personality theory and research. Traits are characteristic patterns of thinking, feeling, and behaving that generalize across similar situations,

differ systematically between individuals, and remain rather stable across time. States are characteristic patterns of thinking, feeling, and behaving in a concrete situation at a specific moment in time. Unlike traits, states vary across time as a function of the situation the person encounters. The distinction between states and traits seems to have existed for as long as scholars have been reflecting on the nature of the human psyche (see Eysenck's 1983 comment on Cicero's (1971) *Tusculanae Disputationes*, published in 45 B.C.). The notion of traits and states is also common in everyday language when people describe themselves and others (Chaplin et al. 1988). The trait concept has guided modern personality theory, measurement, and research from its very beginning (e.g., Allport 1937; Carr and Kingsbury 1938; Thurstone and Chave 1929) and has resulted in very influential personality taxonomies such as the five-factor model (Costa and McCrae 1989; Digman 1989). States found their way into personality theories only several decades after trait models had already been firmly established (Cattell and Scheier 1961; Nesselroade and Bartsch 1977; Spielberger 1972).

Much thought has been devoted to the differentiation between states and traits and the functional relation between them. Both issues are closely related to the question of how the person and the situation jointly shape thoughts, feelings, and behavior. This question has engaged psychology for many decades and has sparked heated debates (Epstein and O'Brien 1985; Kenrick and Funder 1988). Modern interactionism proposes that the variance in behavior could be decomposed into three sources: individual differences (person main effects), situational differences (situation main effects), and person \times situation interactions (Endler and Hunt 1966). This approach has two limitations. First, it does not provide independent definitions of states and traits and therefore renders it unfeasible to simultaneously include both types of constructs in a common theoretical model. Second, the factorial design of this framework fails to address the exact shape of person \times situation interactions and the psychological mechanisms that generate them.

Latent state-trait theory (LSTT; Steyer et al. 1992, 1999) and whole trait theory (WTT; Fleeson and Jayawickreme 2015) address the first limitation. LSTT is a generalization of classical test theory (CTT). CTT defines a latent trait as the true score of any measure (manifest indicator of the trait) given the person. In other words, CTT defines the trait score of a person as the conditional expectation given that person (Zimmerman 1976). By definition, the true score is perfectly stable because the person remains the same. Any deviation of the observed score from the true score is considered measurement error. CTT cannot handle true intraindividual variability in constructs such as moods that fluctuate systematically across time. Therefore, CTT cannot provide a formal definition of states, and it is inappropriate for the evaluation of state measures. Different from CTT, LSTT defines a latent state as the true score of any measure (manifest indicator of the state) given the person and the situation. In other words, LSTT defines the state score of a person in a situation as the conditional expectation given that particular person and that particular situation (Steyer et al. 1992, 1999). Unlike CTT, LSTT provides a clear definition of states and can handle systematic intraindividual change across time. LSTT decomposes the latent state variable into two systematic factors, the latent trait and the latent state residual. The latent state residual represents all effects that are due to the situation and any person \times situation interactions (for details and mathematical proofs, see Steyer et al. 1992). Not only does LSTT provide unambiguous definitions of latent traits and latent states, but it also makes clear assumptions about how traits and states are related to each other. Specifically, it assumes that traits and properties of the situation independently (main effects) and jointly (interaction effects) create states.

Whole trait theory (WTT; Fleeson and Jayawickreme 2015) links traits and states in a slightly different manner than LSTT does. WTT considers traits to be density distributions of states such that the states oscillate around the trait, and the trait is the average state. WTT and LSTT share the assumption that states are deviations from the

trait caused by situational effects. In contrast to LSTT, WTT does not consider traits to be the causes of states. This difference has implications for the measurement of traits. According to WTT, traits are measured as averages of several (ideally many) state measures. In LSTT, states and traits are latent variables measured with the same indicators. Two indicators and two measurement occasions are sufficient for decomposing latent states into latent traits and situation effects. However, more indicators and more measurement occasions are desirable for obtaining robust parameter estimates.

It is important to mention that LSTT and WTT can guide the measurement of traits and states even when there is no knowledge of the situational properties that were present at the time of measurement. This is both an advantage and a limitation. The possibility of estimating intraindividual state variability without having to scale or measure the situation factors that generated this variability is a clear advantage in cases in which the measurement of situation factors is impossible or too costly. However, without any knowledge of relevant situation factors and their varying levels in different situations, it remains impossible to determine which situation factors interact with which person factors, how the interactions are shaped, and which psychological mechanisms drive the interactions.

Because knowledge of the psychological mechanisms that generate person \times situation interactions is highly desirable, Fleeson and Jayawickreme (2015) bestowed an explanatory component on WTT. The authors assumed, for instance, that social cognitive factors such as goals, beliefs, values, and scripts can explain the stability of traits. They argued that knowledge of such cognitive factors and the information processing and behavioral choices they affect is mandatory for understanding why traits are stable and why states fluctuate systematically.

A recently proposed general model – the nonlinear interaction of person and situation (NIPS) model – makes assumptions about these exact issues (Blum and Schmitt 2017; Schmitt et al. 2013). The model assumes that psychological mechanisms are involved when a person with a

certain trait encounters a situation with a certain affordance level. In line with WTT, the NIPS process model proposes that there are four social-cognitive parameters that can explain the behavioral tendency of a person with a certain trait level: (a) threshold, (b) bias, (c) avoidance, and (d) variability. Complementing WTT, the NIPS process model also proposes that there are four situation parameters that correspond to these person parameters: (a) demand, (b) alternatives, (c) restriction, and (d) selectivity. According to the NIPS process model, the four social-cognitive person parameters and their corresponding situation parameters jointly shape four intermediate process parameters that generate behavioral outcomes and states: (a) activation, (b) tendency, (c) inhibition, and (d) predictability. An anxious state as an outcome that depends on the person's trait anxiety and situational threat may serve to illustrate these assumptions:

- (a) A threatening situation can *demand* the *activation* of an anxious state, depending on a person's *threshold*.
- (b) If *alternative* states or interpretations are possible, those will interact with the person's *bias* to react anxiously and result in a *tendency* to be in an anxious state.
- (c) *Restrictions* that hinder a person from being in an anxious state (e.g., relaxation techniques in behavioral therapy), along with a person's *avoidance*, *inhibit* the person from being in an anxious state.
- (d) The *selectivity* of the situation describes how different the state anxiety level will be across persons in this situation. The *predictability* of the state depends not only on the selectivity but also on the amount of *variability* within one person.

This specific example of a general psychological model demonstrates that the question of how traits and states interact is directly related to the question of how persons and situations interact. This is true because traits and situations shape states in the same way that they shape behavior.

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aversive, conscious feelings of nervousness, tension, apprehension, and worry experienced in the immediate moment which are associated with arousal of the autonomic nervous system (Spielberger et al. 1983). For example, someone driving a car pulled over by the police for speeding would likely experience a high level of state anxiety. Trait anxiety was conceptualized as stable individual differences in the propensity to feel anxiety as a personality trait. For example, someone with a high level of trait anxiety would experience anxious feelings frequently, would be more likely to perceive as threatening a wider range of situations, and would feel anxious and nervous more frequently than someone with low trait anxiety.

State-Trait Anxiety Inventory

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Synonyms

[Adult anxiety test](#); [Anxious disposition](#); [Fear](#); [Nervousness](#); [Worry](#)

Definition

The State-Trait Anxiety Inventory is a self-report, 40-item psychological test for adults designed to measure feelings of immediate anxiety that an individual feels at the current moment (state anxiety) and dispositional anxiety (trait anxiety).

Introduction

When measuring anxiety, it is critical to make the distinction between anxiety as an immediate emotional state versus anxiety as a personality trait. In the creation of the State-Trait Anxiety Inventory (STAI), Charles Spielberger and his co-authors conceptualized state anxiety as

Development and Use

The STAI was created as a brief, reliable, and valid self-report measure that could be used in research and clinical settings to assess the intensity of current feelings of anxiety (state anxiety) and individual differences in proneness toward anxiety (trait anxiety). The original version of the STAI (Form X) was published in 1970. Based on a decade of research with Form X, a major revision was undertaken to improve the validity of the questionnaire. In 1983, the STAI Form Y was published; Form Y is the most current version of the measure (Spielberger et al. 1983). The STAI consists of 40 items total: A 20-item state anxiety scale and a 20-item trait anxiety scale. In responding to the 20 state anxiety items, participants report the intensity of their anxious feelings “right now, at this moment.” Examples of state anxiety items include: “I am tense” and “I am jittery.” The response options for these items are on the following four-point rating scale: (1) Not at all, (2) Somewhat, (3) Moderately so, and (4) Very much so. For the 20 trait anxiety items, participants are to endorse how they generally feel in regard to anxious thoughts and feelings on a different four-point rating scale: (1) Almost never, (2) Sometimes, (3) Often, and (4) Almost always. Examples of trait anxiety items include: “I worry too much

over something that really doesn't matter" and "I feel nervous and restless." Several STAI items are reverse scored because the content of the items reflects the absence of anxiety (e.g., "I am calm" and "I'm a steady person"). The STAI takes about 10 min for respondents to complete (Spielberger et al. 1983).

Results are derived by calculating two sum scores: A state anxiety total score and a trait anxiety total score. The two sum raw scores are then converted to a standardized score for interpretation (T-score, percentile rank). This is done by comparing the participant raw scores to relevant normative sample scores provided in the STAI Form Y manual. Higher scores reflect higher levels of anxiety (Spielberger et al. 1983).

The creation and validation of the STAI, Form Y, included data from more than 10,000 adolescent and adult research participants including high school students, college students, working adults, military personnel, medical and dental patients, and psychiatric patients. The psychometric properties of the STAI are excellent and factor analysis of the STAI consistently reveal two factors (state anxiety, trait anxiety) (Spielberger et al. 1999). Full data on reliability and validity properties of the STAI can be found in the test manual. The STAI has been translated and adapted to over 70 languages and dialects, and it is widely used, as indicated by citations in more than 16,000 archival research publications (Spielberger 1989, 2010). Furthermore, neuroscience research using the STAI and imaging devices such as functional magnetic resonance imaging (fMRI) has identified differences in functional and structural activity and connectivity in the insula and amygdala regions of the brain in participants with varying levels of both state and trait anxiety (Bauer et al. 2012; Sehlmeier et al. 2011).

In conclusion, The STAI is the leading measure of anxiety worldwide (Spielberger 2010). The STAI Form Y is available from the publisher, Mind Garden, 855 Oak Grove Avenue, Suite 215, Menlo Park, California, 94,025, USA, or online at <http://www.mindgarden.com/145-state-trait-anxiety-inventory-for-adults>.

Cross-References

- ▶ [Anxiousness](#)
- ▶ [Basic Anxiety \(Horney\)](#)
- ▶ [Basic Emotions](#)
- ▶ [Beck Anxiety Inventory](#)
- ▶ [Empirically Derived Personality Test](#)
- ▶ [Fear](#)
- ▶ [Functional Magnetic Resonance Imaging \(fMRI\)](#)
- ▶ [Personality and Anxiety](#)
- ▶ [Personality Stability](#)
- ▶ [State Anxiety](#)
- ▶ [State/Trait Interactions](#)
- ▶ [Trait](#)
- ▶ [Within-Person Variability of Personality and Individual Differences](#)

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Statistical Learning

- ▶ [Incidental Learning](#)

Statistical Technic

- ▶ [Multidimensional Scaling \(MDS\)](#)

Status

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Synonyms

[Rank](#); [Social standing](#)

Definition

The prominence, respect, or esteem that an individual has in the minds of others. The evaluation of where a given individual stands with regard to whatever the basis of respect or esteem may be in a particular group or society.

Introduction

Status plays a key role in understanding how individuals organize themselves in groups. The term status is applicable to many different dimensions of everyday life, all defined by what is considered valuable and powerful in the minds of others. Some measures of status, like race and gender, are immutable to the self. Others, such as socioeconomic status and social status, are less fixed over time and can shift as an individual progress through life. In general, status as related to individual differences and personality serves as a reference point for an individual's behaviors and thoughts. Having a higher status in groups reliably results in numerous benefits, most notably control or access to better resources, power, and influence (Blader and Chen 2012). Analysis of the role of status in hierarchical organization, individual differences, and interpersonal interactions has

evolved over time, from one that lacked clarity on the operationalization of the term (and its differentiation from influence and power) to a more specific and defined vein of research.

In the past decade, much debate in academic literature has focused on how status attainment and stratification occur in groups. Findings by Anderson and Kilduff (2009) outlined support for social status that was allocated on the basis of improving the group as a whole. Despite the group consensus for the determination of who and what is worthy of higher status, individuals who sought status behaved in ways that were more competent, generous, and committed to the group's success (Anderson and Kilduff 2009). These behaviors can include feigning competence or generosity when needed, as a perception of competence acts more readily as a cue to status than an actual evaluation of competence. More recent research from Cheng and Tracy (2014) has contrasted past findings to support unifying theories about status attainment emerging from dominance or prestige. Each correlates with different patterns of behavior (e.g., verbal styles of speaking and physical stance) and individual characteristics such as agency, agreeableness, and conscientiousness.

Theoretical Frameworks

A common framework to understand and study status involves functionalist theory. The theory focuses on the importance of ability and function to the larger group as motivation and catalyst for status differentiation (Berger et al. 1972). Specific characteristics are implicitly agreed upon as essential and beneficial to the efficiency of the group. Individuals who exhibit these characteristics are elevated to a higher status with the goal of benefitting the group as whole. Those allocated status in a group might be given responsibilities of making decisions for a larger group as a way of ensuring the most qualified individual is in charge. Functionalist theories have been supported empirically with many researchers analyzing how different characteristics result in elevation to a higher status within a group and how

this is beneficial for the group as a whole. Despite this, there is acknowledgement in the social sciences about the functionality of flat organizational models, and the likelihood that many factors, such as self-interest and the misattribution of competence, fail hierarchical organization. A recent review of functionalist research by Anderson and Willer (2014) suggested adopting a bounded functionalist account to understanding the role of social status, addressing the challenges that inhibit hierarchies from functioning ideally through allocation of social ranks.

The Dominance-Prestige account (Henrich and Gil-White 2001) focuses on similar evolutionary roots of status stratification and attainment but acknowledges the presence and effectiveness of two distinct pathways towards attaining influence, power, and higher status in a group. First, dominance – defined as deference coerced through inducing fear by virtue of potential ability to inflict harm – is connected with distinct personality characteristics such as disagreeableness, low communal tendencies, narcissism, and manipulation (Highhouse et al. 2016). In contrast, prestige – defined as deference freely conferred by virtue of perceived skill and abilities – is connected with conscientiousness, agreeableness, and high self-esteem (Cheng et al. 2014).

Status, Personality, and Identity

In a study outlining objective socioeconomic status (OSES) and subjective socioeconomic status (SSES) as related to personality and lifestyle variables, Buccioli et al. (2015) found that participants high in openness, conscientiousness, and extraversion had high self-evaluations of social status, while agreeableness and emotional stability/neuroticism were correlated with lower self-evaluations of social status. Other recent findings from Damian et al. (2015) support the importance of personality traits, such as Extraversion and Openness, in the attainment of social status comparatively to socioeconomic status and intelligence alone.

Status plays a significant role in establishing the salience and stability of an identity. Work

published by Davis and Love (2017) tested the likelihood of high and low status assigned individuals to shift in their identity through manipulated appraisals of their performance on tasks in which their scores were either identity-discrepant or identity-congruent. Participants who were assigned the higher status position (leader) were more likely to have a stable identity compared to those who were assigned the lower status position (assistant). Due to the attachment of status to immutable identities that are considered superior and inferior in societies (such as race or gender), these findings are applicable to conceptions of how internalization of status leads to different behavior outside of a laboratory environment.

Conclusion

Status serves as a general term to refer to the placement of an individual in a larger group or society on a basis of factors established by the group as valuable and worthy of respect and esteem. As a tool of understanding organization among groups in work environments, larger societies, and smaller dyadic relationships, status reliably informs individuals on their respective roles in a particular setting and expected behavior. Theories about how to conceptualize attainment of status and the ways in which it informs behavior are more parallel than at odds. Functionalist theories are prominent in present and past research, pointing to important reasons as to why status is useful as a tool for mitigating conflict, efficiently making decisions as a group, and a heuristic cue for social behavior. The Dominance and Prestige account explains how two distinct pathways exist for establishing social status and ensuring influence and power in a group. These two pathways correlate with distinct personality and emotional differences, as well as behavior that concur with these traits.

Cross-References

► [Power](#)

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Steel, Piers

Piers Steel

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Piers Steel, PhD, is the Brookfield Research Chair at the Haskayne School of Business. He has a

BA from the University of Toronto, majoring in philosophy and psychology, completed his masters at the University of Guelph and his PhD at the University of Minnesota, both in Industrial/Organizational Psychology. His advisors for his doctorate were Dr. John Campbell and Dr. Richard Arvey. He is a member of the *Academy of Management* (AOM) and the *Society for Systematic Review and Methodology* (SSRM) as well as fellow of the *Association for Psychological Science* (APS), the *American Psychological Association* (APA), and the *Society of Industrial Organizational Psychology* (SIOP).

Upon graduation, he was hired at University of Calgary's Haskayne School of Business' Human Resource Organizational Behavior department, where he earned tenure and presently is a professor. There, he received a series of Haskayne awards, including Outstanding New Scholar, Outstanding Leadership in Teaching and Learning, Outstanding Research Achievement, and Managerial Relevance of Research. In 2010, he received the Killam Emerging Research Leader Award, given to a University of Calgary academic from any department in recognition of outstanding contributions to research at an early stage in career.

Internationally, he has received AOM's HR Division Teaching Committee Innovative Teaching and the Raymond A. Katzell Award in I-O Psychology, which recognizes a SIOP member whose research and expertise addresses a societal and workplace issue and has been instrumental in demonstrating the importance of I-O-related work to the general public. Aside from four best paper awards given by AOM, SIOP, and Academy of International Business (AIB), he received two other notable research awards. First, his *Journal of Applied Psychology* article "Examining the impact of *Culture's Consequences*, coauthored with Vas Taras and Bradley Kirkman, was bestowed monograph status, which requires an editorial nomination and then agreement from a supermajority of editors. Second, his sole-authored paper "The Nature of Procrastination" (Steel 2007) received the George A. Miller Award. This international APA award is for an outstanding article, published within the past 5 years, across the entire field of psychology.

His award-winning article “The Nature of Procrastination” was expanded and then published as a popular nonfiction book in 12 languages, *The Procrastination Equation*. This also led to him becoming one of the featured motivational experts in the advertising firm droga5’s Prudential campaign, which won the Titanium Lion at the Cannes Creativity Festival. Dr. Steel speaks about motivation and procrastination issues, conducting workshops and providing keynotes at academic and corporate venues (e.g., Chevron, the Royal College of Physicians and Surgeons of Canada, International Society for Performance Improvement Conference). In addition, he is recognized by APA as being among the first scientists to conduct research on the web and has now developed a website that assesses procrastination and provides a free online training program in goal setting (i.e., www.procrastinus.com).

Aside from his meta-analytic summary and review pieces (i.e., Steel and Klingsieck 2013, 2015), he has developed the Pure Procrastination Scale (Steel 2010a, b), which in turn has been translated into Swedish (Rozenal et al. 2014), French (Rebetez et al. 2014), Norwegian (Svartdal 2017), and Indonesian (Prayino et al. 2013), with Greek and Spanish translations are also in progress. As Steel and Klingsieck (2016) review, procrastination is impulsivity driven, with other personality traits determining what is usually procrastinated, though often misattributed as being the cause of procrastination themselves. For example, though phenomenologically, impulsive perfectionists will experience their perfectionism as being causal to procrastination, it is impulsivity that is actually to blame.

Notably, his work on procrastination draws upon his broader theory of motivation (Steel and König 2006), temporal motivation theory (https://en.wikipedia.org/wiki/Temporal_motivation_theory). It integrates several theories of motivation, with a key aspect being the hyperbolic discounting of rewards and expectancies in relationship to a deadline or outcome. Notably, this integrative theory itself was later subsumed into the Goal Phase Theory (GPS), written with Dr. Weinhardt (Steel and Weinhardt 2018).

Published as a chapter in upcoming second edition of the *Handbook of Industrial, Work & Organizational Psychology*, it unifies the major motivational or decision-making components of economics, psychology, and neurobiology into a single comprehensive system. The GPS is named as it posits that there are three major stages of goal realization – decision, planning, and striving – with each stage having somewhat separate motivational laws or tendencies that require independent modeling. It also integrates a control theory perspective, enabling dynamic, recursive elements to be formally part of motivation. This is part of a shift toward computational modeling as being a key tool for understanding how motivation, resources, and ability translate into behaviors and outcomes (Vancouver et al. 2016).

Dr. Steel does extensive work in culture, especially how culture affects subjective well-being. Publishing frequently with his former student, Dr. Taras, who now heads the X-Culture group (<http://x-culture.org/>), they maintain a research program in this area (e.g., Steel and Taras 2010; Taras et al. 2010, 2012). Aside from the *Journal of Applied Psychology* monograph, they along with Dr. Kirkman helped build a meta-analytic update of the Hofstede’s classic cultural indices, expanding it and changing it from a static to a longitudinal design. With this improved dataset, he has used it to address the degree country equals culture (Taras et al. 2016) and has papers under review testing modernization and convergence theory as well as what is the ideal cultural profile for national success.

In personnel selection, Dr. Steel developed forms of synthetic validity. Synthetic validity is a method for creating selection systems that are orders of magnitude less costly, more accurate, more legal defensible, and almost instantaneous in construction (Johnson et al. 2010; Steel and Kammeyer-Mueller 2009). Dr. Steel assembled the first modern process for its development (Steel et al. 2006) and a working prototype. He and Dr. Jeff Johnson put together a symposium on the topic, which then led to a special issue on the topic in the SIOP association journal *Industrial and Organizational Psychology: Perspectives on Science and Practice*. As Steel

et al. (2010) summarized in their response article, the consensus was that synthetic validity was now possible and desirable. For example, Bartram et al. (2010, pp. 371–372) wrote, “We strongly support the principle of synthetic validity and agree with much of the focal article, seeing that form of validity as the only general approach for the future.” Hollweg (2010) believes that “a database that promotes this goal would be a worthy achievement and add significantly to the scientific body of the profession.” McCloy et al. (2010) argued that substantial funds for realizing this goal will materialize, “given the potential value to the field.” Murphy (2010) admits “there is no doubt that synthetic validity is a great idea.” Oswald and Hough (2010) are “convinced that the payoff [for building a synthetic validity testing system] would directly benefit the welfare of organizations (in real dollars) as well as employees and the science of work behavior.” Presently, Dr. Steel along with Dr. Colin Lee is fulfilling a Canadian governmental SSHRC grant to create a working synthetic validity systems (i.e., “*Improving Personnel Selection Through Synthetic Validity*”).

As can be seen, meta-analysis is a common methodological stream that runs through Dr. Steel’s research programs. He has several other articles that he has published with students on a variety of topics, including charitable giving (Peloza and Steel 2005), sexual harassment (Willness et al. 2007), driving with a cellphone (Caird et al. 2008), organizational performance and innovation (Bowen et al. 2010), management control (Liu et al. 2014), and cross-cultural communication (Merkin et al. 2014). He has also written several statistical themed articles improving meta-analytic methodology itself (i.e., Paterson et al. 2016; Steel and Kammeyer-Mueller 2002, 2008; Steel et al. 2015).

Building on this meta-analytic interest, he along with two cofounders – Dr. Frank Bosco and Dr. Krista Uggerslev – developed metaBUS (<https://metabus.org/>). metaBUS is one of the only two Canadian winners of the Association to Advance Collegiate Schools of Business’ *Innovations that Inspire*. Funded from nine active US and Canadian grants, including the prestigious

international *Digging into Data Challenge*, metaBUS seeks to make meta-analytic summary instant, customized, transparent, accurate, advanced, and free. Essentially, researchers enter the online metaBUS portal and specify what concepts they want summarized, and a full meta-analysis is then conducted based on the scientific literature and then presented to them. A working and accessible version of this platform is available but presently only for the field of applied psychology (Bosco et al. 2015; Baker et al. 2016). Based on metaBUS, several articles were published that are effectively among the largest meta-analyses ever performed (i.e., Steel et al., 2019, 2018).

For several years, Dr. Steel was an award-winning coach, bringing silver and gold finishes for the Excalibur National HR Case Study Competition. Publons, the online curator of academic reviews, places Dr. Steel in the 99th percentile in terms of verified reviews (<https://publons.com/a/534594>). Finally, his research has been reported in hundreds of media outlets around the world including *The New Yorker*, *The Globe and Mail*, *The New York Times*, *CNN*, *USA Today*, *LA Times*, *Scientific American*, as well as on the National Geographic and the Discovery Channel.

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Stereotypes

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Synonyms

[Categorization](#); [Overgeneralization](#)

Definition

Stereotypes are defined as a type of perception based on categories, such as race, ethnicity, gender, class, occupation, and personal characteristics.

Introduction

Today, the term “stereotype” is used as a lay term, but it was said to be first used by an American journalist named Lippmann. In his 1922 book, *Public Opinion*, Lippmann used the term to describe human perception of the world. He stated, “For the most part we do not first see, and then define, we define first and then see. In the great blooming, buzzing confusion of the outer world we pick up what our culture has already defined for us, and we tend to perceive that which we have picked out in the form stereotyped for us by our culture” (p. 81). Although the term prejudice often appears together with descriptions of psychological processes toward other groups and their members, stereotypes are overgeneralized cognitions that can be negative or positive and serve as justifications for prejudice (Crandall et al. 2011). On the other hand, prejudices are characterized as compounds of often-negative emotions and cognition toward groups and their members. The concepts and processes of stereotyping are very broad, but studies have often been done in terms of how stereotypes are formed, maintained, and changed. Furthermore, the psychological processes of those who are viewed stereotypically have been scrutinized.

Dimensions of Stereotyping

How Stereotypes Are Formed

Stereotypes are formed from numerous factors including personality, cognitive tendencies, and group relations. Particularly, it is a natural process for people to tend to perceive an unfamiliar person or object from a category that they know because they need to cope with various information both simultaneously and spontaneously. From a group relation perspective, people tend to perceive the outgroup members more negatively and more categorically; thus, people tend to view outgroup members more stereotypically than ingroup members (cf. social identity theory, Tajfel and Turner 1979). Stereotypes often show an exaggeration of individual or group characteristics, but are, to some extent, accurate (Jussim et al. 2015).

How Stereotypes Are Maintained

Once people see a person stereotypically, they strive to maintain these stereotypical images through subjective and selective perception. For example, Cohen (1981) found that retention rate was higher when information was consistent with stereotypes. Ambiguous information came to be believed in accordance with stereotypes, resulting in the verification of the stereotypes (i.e., self-fulfilling prophecy) (Merton 1948). When information that people received was not in accordance with their existing stereotypes, they tended to perceive that phenomena or person through subtyping, which refers to an exception from the social category (Weber and Crocker 1983). By excluding these subtypes as exceptional cases, people tend to maintain their original stereotypes. Another important feature of stereotypes is that they are activated automatically. Many studies proposed models to describe these processes of automaticity in reinforcing and maintaining the stereotypic information processing of individuals (Lepore and Brown 1997).

How to Change and Avoid Negative Stereotypes

Stereotyping is an inevitable and automatic cognitive process of humans. As such, it has been considered difficult to change stereotypes once they are formed. Furthermore, negative stereotypes often cause detrimental consequences including prejudice, discrimination, and racism, among others. In contrast, recent findings show that stereotyping is more malleable than what was once thought (Blair 2002); we need to strive to avoid forming and change existing negative stereotypes despite difficulties in doing so. One of the proposed models to alleviate negative stereotypes and prejudice is contact hypothesis (Allport 1954). This hypothesis relied on the premise that lack of knowledge and opportunities to interact is a strong factor for people to have negative stereotypes and proposed several factors to reduce stereotypes and prejudice toward outgroup members. The contact hypothesis and successive models, intended to scrutinize conditions for change and avoidance of negative stereotypes, showed that people need to work

more collaboratively by increasing the opportunity to interact with those who have equal power and creating safe and supportive environments (Brown 1995). Imagined contact hypothesis (Crisp and Turner 2009), an extension of the contact hypothesis, proposes that imagining positive social interactions with outgroup members will lead to beneficial outcomes, including an increase in positive attitudes towards the outgroups.

Receiver's Psychological Process of Being Stereotyped

In addition to investigating the processes and functions of forming stereotypes, how people react to these stereotypes (i.e., receiver's psychological process) is also an important area of research. A major concept of describing the process of being stereotyped is stereotype threat: the fear that people might be treated and judged according to stereotypes, and their behavior may be confirmed by these stereotypes (Steele and Aronson 1995). Stereotype threat was shown to lead to reduction in the performance of individuals; people are aware of negative stereotypes toward them or their group and thus become more anxious about their performance. This feeling of threat may be detrimental to an individual's ability to perform at their maximum level.

Like stereotype threat, the psychological processes of a person who is stereotyped are very complex. In the real world, overt prejudice and discrimination based on negative stereotypes often tend to be avoided. Thus, individuals who receive negative evaluations from others tend to hold attribution ambiguity. That is, the individuals are unsure whether these negative evaluations are based on stereotypes or on their actual performance (Crocker et al. 1991).

Conclusion

Stereotyping has a negative connotation; that is, it is a concept that should be eliminated. However, stereotyping is considered a natural process of social cognition, and while the contents of stereotypes are often exaggeration, they are sometimes

accurate to an extent. Stereotyping helps humans to have simple and quick perceptions of objects and humans. We need to be more keenly mindful of stereotyping processes and aware of the negative impacts on social cognition to develop better interpersonal and intergroup relationships.

Cross-References

- ▶ [National Character Stereotypes](#)
- ▶ [Prejudice](#)
- ▶ [Scripts](#)
- ▶ [Stereotypes](#)
- ▶ [Stigma](#)

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Stereotyping

- ▶ [Labeling](#)

Stern, William

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Kurt Kreppner, retired since April 2003, was a Senior Research Scientist at the Max-Planck-Institute for Human Development and Education, Berlin, Germany. He has conducted longitudinal studies on family socialization processes during early infancy and adolescence. He was also interested in the methodology of observation and the history of developmental psychology.

Introduction

The time into which Louis William Stern was born and in which he grew up and studied can be characterized by three general trends: First, there was the belief in a growing understanding of human behavior and in the optimization of human development, second, there was the increasing recognition of the complexity and multitude of human behaviors, and third, there was the position that social conditions had to be taken into

Kurt Kreppner has retired.

account when human behavior and the inequalities in human life had to be explored and explained. The first of these trends was very much linked to a methodology akin to natural sciences; the second had its roots in philosophy and an “understanding” approach when dealing with psychological issues, and the third trend was due to an increasing awareness of social and ecological conditions in which children grow up and what kind of impact these conditions might have on children’s developmental pathways. Under these perspectives, Stern’s life and work stand out for the attempt to reconcile divergent trends and to articulate clearly what should be the center of a psychological science: the person. With this Stern had in mind the complex unity of a human being which should not be subdivided into isolated elements. Stern’s work in all its very divergent facets shows an extremely high degree of creativity driven by the attempt to find a constructive solution for problems resulting from ideological blinders. Stern tried to live and work in both rather controversial academic worlds: the natural science-oriented and the philosophical and understanding section of the new science psychology. Moreover, he also was very engaged in communicating new knowledge from the academic field into the area of practitioners. During his entire career one can find the permanent endeavor to offer practical applications from his experiences in the area of academic psychology to the public. He was convinced that the new science could help solve problems in many areas of life, society, education, industry, or even jurisdiction.

In his never ending efforts to find practicable compromises, Stern, from today’s more distant perspective, was in danger to take a seat between sometimes very different positions. It is likely that this behavior, rather uncommon for an academic researcher at this time, led to the fact that William Stern’s reputation as a well-known and accepted scientist did not last long after his expulsion from Germany (Deutsch 1995, p.127). However, there might be a second point why Stern’s work did not have the impact to the future course of psychology it certainly would deserve: The German texts in Stern’s work are not easy to read for today’s scientists or students, because Stern’s way of

writing and arguing comes from an era where concepts, words, and terms were in use very differently from those in use today for similar concepts. This may also have led to a number of current misunderstandings of some of his concepts. Finally, in a retrospective view on Stern’s life, it appears rather touching that he himself had to experience in a very direct and personal way the impact of social class and ethnic origin as an impediment for his own early vocational career, the influence of war and a revolutionary postwar era in Germany during his years in Hamburg, and finally, the difficulties to survive the expulsion from his Institute and his country after 1933.

His Life and His Academic Career

Louis William Stern was born in Berlin on April 29, 1871 as the only child to Sigismund Stern, a designer and retailer of wallpaper in a small studio, and Rosa Stern. The parents were akin to each other. In Stern’s own description of his family background, he calls his father more an artist than a successful businessman; money was a rare thing at home. However, the parents managed to send their son to a private Lutheran elementary school, then to the Cöllnische Realgymnasium, where William was an assiduous student with a wide scale of interests. He took not his father but his grandfather as a model for his future life, Sigismund Stern (1812–1867), who had been a famous person in the Jewish reform movement during the nineteenth century, supporting the assimilation of the Jewish population to German culture. It seems that this grandfather with his talent as a public speaker and as a dedicated pedagogue was a shining idol for William. After his final school exam (Abitur) in 1888 he began to study at the Friedrich Wilhelm University in Berlin. He chose philosophy and psychology as majors. During the first year at the university, Stern was fascinated both by the idealistic thinking of one of his teachers, Friedrich Paulsen (1846–1903), and, at the same time, by the strictly natural-science oriented approach to tackle psychological questions of another of his teachers, Herrmann Ebbinghaus (1850–1909). Ebbinghaus

was devoted to the new branch of “experimental psychology” and taught Stern how to study processes of learning and memorizing. Moritz Lazarus (1824–1903), a third influential teacher of Stern, gave lectures about differences among parts of populations such as ethnic or social groups. Although being much attracted by the new approaches of Ebbinghaus, Stern did his doctoral dissertation in an area where he collected examples of folk-thinking by analyzing the use of analogies for the explanation in everyday life (Stern 1893). He concludes in this work that the use of analogies in everyday communication is a rather sophisticated tool, for they show variations of a topic, put a new light on an explanation, without giving up the unity of the flow of thought processes (Stern 1893, p. 58). Stern, even in this early work, tried to show a very basic tendency in everyday use of analogies: the application of *variation* in order to convey a certain idea without losing its *unity*, a dialectical concept which can be found on many places in Stern’s later work. Generally, it seems that the fundamental division between elementaristic and holistic viewpoints in the new field of psychology had a strong effect on the further thinking of Stern. It was already here that he developed a strong motivation to reconcile what seemed to be irreconcilable, perhaps following his idol, Grandfather Sigismund.

After his dissertation, job conditions were not very promising in Berlin. Stern had hoped for an appointment as an assistant at Carl Stumpf’s (1848–1936) laboratory, but there was no vacant position in early 1893. Without being paid, he did research in the various labs at the university focusing on a highly valued topic at this time: perception and change in areas such as brightness, movement, sound, and time. To earn some money, he interrupted this activity and went to Austria for 2 months as a private teacher. Finally, in the fall of 1896, Stern received an offer from his teacher Hermann Ebbinghaus to do his habilitation at his new Institute at the University of Breslau where Ebbinghaus had moved in 1894 (today: Wrocław, Poland, then a small provincial town in Silesia). Stern accepted immediately and did his habilitation by assembling his various papers and publications about his unpaid work

on differential perception and change in sound and movement with the title “Psychologie der Veränderungsauffassung” (Psychology of the Perception of Change), (Stern 1898).

Stern was happy about the opportunity to escape the frustrating situation at the University in Berlin and the offer of a paid position in Breslau. He became a “Privatdozent,” that is, he could now earn some money by giving lectures at the University on various topics without being a professor. His former teacher Ebbinghaus supported him and let him give courses on experimental psychology. Stern also started a number of social activities such as the foundation of the Psychological Society in Breslau (1897) and, together with his colleague and friend Otto Lipmann (1880–1933), the establishment of the “Institut für angewandte Psychologie und Sammelforschung” (Institute for Applied Psychology and Data Collection) in Berlin (1904).

In his private life, Stern had met Clara Josephy (1876–1945), the daughter of a wealthy middle class Jewish family on his numerous bicycle tours through the Grunewald in Berlin. Although her father had serious doubts about the future of this jobless and poor wretch philosopher William Stern, Clara and William married in 1899. Clara was a very intelligent and talented woman who participated right from the beginnings in the academic activities of her husband and started, after the birth of their three children (Hilde 1900, Günther 1902, and Eva 1904), a unique study by observing, describing, and analyzing the development of their children in diaries over the length of all in all 18 years. The focus was first laid on language development (Stern and Stern 1907, 1909), but as the children grew older, other topics like the development of memory, play, emotion, and intelligence were moved to the foreground. These diaries in their original format (Stern and Stern 1900–1918) have been digitalized and are now available at the Max-Planck-Institute in Nijmegen. Aside from this project where Clara played the main role, it appears that William Stern had his most creative and productive period of his life in Breslau, although he sometimes lamented over his isolation there (Stern 1927a, p. 140).

In 1905 Herrmann Ebbinghaus left Breslau and went to the University of Halle. Stern hoped for the vacant position, but it lasted another 2 years, until, after fierce discussions in the faculty (most likely because of anti-Semitic tendencies among many professors) Stern was offered the position of an associate professor including the directorship of the psychology department. When Clark University celebrated its 20th anniversary, Ebbinghaus was one of the numerous celebrities in European psychology who were invited to participate. As Ebbinghaus died in 1909, this invitation was passed on to William Stern. Thus, at the age of 38, Stern followed this invitation and was honored by the Clark University with a doctoral degree (of laws, as no doctoral degree existed for psychologists!).

During his Breslau years, which lasted until 1916, Stern apparently followed four pathways:

First, he continued his attempts to unite the two so different areas, the philosophical branch of an “understanding” psychology and the new branch of experimental psychology; second, he worked intensively on a new foundation of a psychology with a personalistic, antielementaristic orientation. In these attempts, “convergence,” “unitas multiplex,” and “person and thing” are cornerstones. In this creative period falls also the “invention” of the IQ, the measurement of human intelligence (1912), and the conception of a new field in person psychology, which he called “differential psychology” (1911). This new methodological access for the description of variations of characteristics both within and across persons tries to maintain the person in the center of attention. Most of Stern’s work on the theoretical foundation of a new person-centered psychology during these years was published later in a series of books and articles (1917, 1918a, b, 1919). Third, Stern also was engaged in promoting a new understanding of developmental processes in the child, including language, intelligence, and social competencies, emphasizing particularly the role of both biological and environmental components in human ontogeny (1904, 1907). Fourth, during these years in Breslau, Stern’s commitment to foster a growing consciousness in the public for the increasing knowledge collected in the new science

psychology became more and more apparent. He tried to discuss more general societal problems such as youth problems, information for lawyers (about the trustworthiness of testimonials before court), and, last not least, the optimization of school teaching and teacher education from a modern psychological perspective. For example, he established a huge project aiming at a better teacher education, the “Projekt Jugendkunde” (project knowledge about adolescence) proposing new modes of instruction in schools and the distribution of knowledge about problems during adolescence in order to help teachers to better understand their students (Dudeck 1989).

After the death of Ernst Meumann (1862–1915) in Hamburg, a pedagogue with a highly empirical and experimental orientation and the head of the philosophical department at the Institute for Colonial Studies, Stern was offered this position in 1916. It was the time in the middle of First World War, and Hamburg did not have a university but only an institution which combined the study of colonial matters with a mainly municipal program of general lectures offering various subjects in Social and Political Sciences as well as in the Humanities. There were, however, plans to transform this Institute into a new university after the war. Stern accepted the offer mainly because Meumann had established a new department of philosophy including a psychological laboratory. Hamburg teachers, who had a say in making appointments to this institution, strongly favored Stern as Meumann’s successor and new director of this department, as Stern’s project “Jugendkunde” was well known among them. During the final years of the war, the Institute was asked to help develop tests for the selection of pilots or female tram drivers, a task which Stern as the new director not only fully accepted to accomplish with a focus on attention, orientation, and reaction abilities of the tested person, but in a way seemed to regret that these activities of test development were finished after the end of the war (see Stern 1922, p. 176).

The Hamburg University finally opened on April 1919, and Stern was appointed the position of the new director of the Psychological Institute at the university. In addition, psychology became

a subject of its own, an important step towards the status of an independent profession. Two assistants, Heinz Werner (1890–1964) and Martha Muchow (1896–1933), helped to build up what became the Psychological Institute in Hamburg (see Kreppner 2005, 2015). During the following years, others joined such as Curt Bondy (1894–1972), Fritz Heider (1896–1985), or Erich Stern (1889–1959). At the Institute, Stern established a very effective interdisciplinary dialogue with the philosopher Ernst Cassirer (1874–1945), who was not only a colleague of Stern at the university but also a close friend, and with the biologist Jakob Johannes von Uexküll (1864–1944). These discussions and common seminars aimed at a better exploration of the subject-environment relationship and helped Stern to deepen and to differentiate his conception of the person-environment interaction (for details see Kreppner 1997). The vivid discussions among Stern, von Uexküll, and Cassirer attracted other members of the Institute to participate and add their own ideas, for example, Heinz Werner who had come to Hamburg already in 1917 as a post-doctoral research associate who had worked with Külpe and Bühler who both had extended the field of experimental sensory psychology into new areas of human thinking, well known as the “Würzburg School.” Stern saw Werner as the person who had the competence to represent the segment of academic psychology which had been administered and taught in Breslau by Ebbinghaus and which Stern very strongly wanted to remain an important subject in psychology at the future university in Hamburg. Moreover, these interdisciplinary discussions focusing on the person’s interplay with the environment most likely stimulated Stern to initiate a number of environmental studies which were organized and executed by Martha Muchow who, as a school teacher herself, covered the areas which focused on school and teacher subjects. She held lectures and practical courses for teachers, developed a teacher aptitude test, and became more and more interested in the study of children’s natural environments (Muchow and Muchow 1935).

During the years 1920 to 1930, Stern was successful in developing a highly reputed Institute

in which many new ideas were elaborated about the role of psychology as a new science with focus on child and personality research both in theory and practice. Aside from these research activities, Stern was also, like in Breslau, strongly engaged in transmitting new knowledge from the sciences to the public; he held intensive contacts with the Hamburg teachers’ administration, established extensive collaboration with industry, and brought the Hamburg Institute, according to Hardesty (1976), to “full swing” and made it to a hub for divergent lines of thought in theoretical, methodological, and practical aspects in psychology.

When the Nazis took power in 1933, this era ended abruptly. At the age of 62, Stern was barred from the Institute; the new Nazi administration also prohibited the further editing of his journals (see Moser 1986). Martha Muchow and Otto Lipman committed suicide; Heinz Werner could successfully leave Germany and accepted a position as lecturer at the University of Ann Arbor. Stern and his wife went to the Netherlands, but he could not get a proper position there. Frustrated the couple went back to Hamburg, and after months of waiting they finally could leave Europe from Le Havre in July 1934 for the United States. Gordon W. Allport (1897–1967) and William Mc Dougall (1871–1938) had arranged a guest professorship at Duke University in Durham, North Carolina (Bühning 1996), where he could at least earn some money. In addition, Stern was invited to give lectures at various American universities such as Brown, Columbia, and Harvard. During these adverse times 1933–1934, Stern, still in Europe, managed to work on the manuscript of his major opus *Allgemeine Psychologie auf personalistischer Grundlage* (General psychology from the personalistic standpoint). It is written part in Hamburg, part in the Netherlands and finished in Durham. The book was published in the Netherlands at Nijhoff, Den Haag in 1935 in its German version; the English translation came out in 1938.

Nonetheless, Stern, the emigrant, could not make his way into the American academic mainstream. He, the brilliant scientist, teacher and author in Germany, had serious difficulties in giving lectures and talks in English. Moreover, his

style of thinking did not really fit into the more pragmatic and behavior-oriented style of debating and teaching at most American universities at that time. Thus, he did not feel at home in his new environment. On March 27 1938, Stern died in Durham from a heart attack. His son, Günther Anders, incinerated the body, but the ashes were not buried in Durham. According to Bühring (1997), it is unclear, where the urn was laid to rest. Stern's wife Clara died 1945 in New York.

Stern's Major Theoretical Conceptions

During the Breslau years Stern worked intensively on the conception of a new psychology which put the entire person, not single aspects, in the center of interest. He saw the person as a "*unitas multiplex*," a multifaceted unity which is to be described both with regard to its internal construction of traits and dispositions, i.e., variety within a person, and with regard to distributions of traits and dispositions across persons. Moreover, the person acts actively and "*goal directed*" (Greek: *entelecheia*, having a goal in ones actions, Stern 1919, p.68). The person is forming his or her environment but is, at the same time, influenced by the special conditions of a person's environment. In his *theory of convergence* Stern created a concept of person development which included both the nativistic and the environmental position, focusing on the interplay between a person's (genetic) endowments or "dispositions" and the environmental conditions which form the specifics of a person's developmental pathway. The person's activity and goal-directedness lead to differential developmental pathways even under similar environmental conditions. Within this framework, a person is always an "active developer" (Lerner 1982), and (genetic) dispositions are seen by Stern as a "causality with a leeway" (Stern 1919, p.69), that is, the same disposition may have quite different outcomes depending on the specific environmental conditions in which a person is growing up. The idea of plasticity and malleability is well formulated by Stern and emphasizes an essential characteristic of a person (Stern 1918a, pp. 50–51).

In his book entitled *Differential Psychology* [*Differentielle Psychologie*] (1911) Stern exemplifies in detail various methods by which the person and his or her characteristics and competencies can be studied and analyzed. The aim is to formulate a methodological framework in which the person as a complex unity does not get lost in dissolution of several elements such as traits or competencies. Stern subdivided the field of differential psychology as an empirical science into two sections: When the focus on one characteristic measured across persons, Stern defines this method as "variation research," when two (or more) characteristics are measured across many persons, the kind of resulting research is called "correlation research." Both approaches are given the label *nomothetical* methods. When the focus is on the description of one person measured on many characteristics, then this approach is called "psychography," when two or more persons are measured on many characteristics, the approach is named "comparational research." For these two aspects of person research Stern used the notion of *idiographic* methods.

Person and Thing

Stern presents in his "critical personalism" a new antagonism for the description: "person and thing" instead of "mind and body." With this new antagonism Stern intends to surmount the mind-body dualism which prevailed in the contemporary debates during his time. The new dimension is conceptualized as being orthogonal to the old dualism. In contrast to a "naïve personalism," which posits a person as existing independently of material or environmental conditions and being purely mentally organized, Stern's critical personalism creates a new dimension laid out between the poles "person" and "thing." As he declines the kind of spiritualism in naïve personalism, he also strongly denies a total materialization of all mental concepts as a reduction to mechanical reactions such as association chains forming thought processes which are not subordinated to a controlling ego. Stern supposes a perspective in which the contrast or even conflict

between a person's consciousness, the inner representation or "inside world" on the one hand, and the environment, the "outside world" on the other is put into focus. This new view implies the permanent development of a person's consciousness by the challenge created by the environment. Stern has used the concept of a "mirror" as the inner result of a new experience which becomes a "weapon," with which new interpretation patterns for the outside world can be found, leading to a convergence, a new balance between former inner representations and new experiences widening the person's consciousness (Stern 1919, p. 228 ff). The "mirroring" is seen as the subjective dealing with a new, never before experienced confrontation of reality, which may lead to a more appropriate construction of the world. This ongoing interplay between person and environment is put by Stern: "The person sticks in the world, and the world sticks in the person" (Stern 1919, p. 236).

Proximal Space

In his opus major *General psychology from the personalistic standpoint* (1935, engl. 1938) Stern introduces an additional differentiation in the description of the person-environment interplay: Between subjective experiencing and the objective conditions of the environment, Stern puts a third segment, the proximal space in which the subject is living (*gelebte Welt*).

The introduction of this new person-environment dimension led Stern to a deeper analysis of a person's interaction with the environment centering on the question how a person as *unitas multiplex* is influenced by the environment, and how the environment is influencing the development of the person. Stern's approach to consider the person-context interaction in much more detail brought him to a new distinguished definition of the *proximal place*, where the interaction takes place. He introduced the concept of a "personeller Nahraum" (proximal space of the person), a location where the mutual exchange between person and environment "really" takes place. This could be neither the larger environment, or the outside world, nor the "inside" of the person, his or her subjective experience. Stern

conceptualized in more detail the exchange process between environment and person underlining the active selection of environmental aspects by the person on the one hand, and the environment's effects on a person's experiences and the ability to deal with them on the other. This is Stern's new concept of "*gelebte Welt*" (the world a person is living in) in contrast to the more traditional division into a person's "*erlebte Welt*" (experienced world) and the "*objective Welt*" (objective world). This third location "*gelebte Welt*" between the subjective experience of the individual and the objective, physical description of environmental conditions was believed to be a kind of missing link for the characterization of a person's activities in a specific environment. Stern challenged by this three-pronged approach the ongoing nature-nurture debate and laid the focus on the *process of interaction* between person and environment.

The Person as an Active Developer: Stern's Contribution to Child Development

This complex conception as the person in active interaction with his or her environment leads to Stern's ample work about children's development (Stern 1927b), which is regulated by two antagonistic features: the tendency to maintain an extant state, that is, to avoid change, and the tendency to reach out for new goals to promote development, that is, to change an extant state to better integrate new experiences. Stern focused on this process character in order to understand the developmental course in a child. Although Stern's ideas may be sound similar to Piaget's conception of the dual process of assimilation and accommodation (Piaget 1937), Stern always sees the developing individual, like Piaget, as an active subject constructing his or her cognitive development, but also as a person who is shaping his or her individual proximal space and is shaped by it. Whereas Piaget's interests were more centered on the child's internal construction of cognitive development, Stern's concern was more directed toward the interplay between the active person and the environment.

Conclusions

Stern's conceptions about a psychology focusing on the person and about a science called "person-ism" have been taken up and appreciated by many scientists like Gordon W. Allport (1938), Frank Hardesty (1976), more recently by James Lamiell (2003, 2010), or Werner Deutsch (1995), but his breaking ideas about a new holistic view on the person, brought forward around a hundred years ago, did not have an enduring and sustainable influence in the history of psychology it most likely would deserve (Kreppner 1992). This may be due to the fact that Stern died too early after his emigration in the United States and could not gain a wider acknowledgement in American academic circles. Perhaps his way of thinking in America during the 1930s did not fit properly to the main stream of pragmatism and learning theoretical concepts. However, from a today's point of view, there could also be another reason why Stern could not earn the reputation other emigrants like Kurt Lewin could receive: Perhaps it was Stern's fate to belong to those scientists of the first generation who try to tear down extant barriers in world views but do not yet have the proper vocabulary or terminology for their new concepts. Their messages do not make the way to a larger public. Whereas, for example, Kurt Lewin (1931) was successful in transforming some of Stern's basic ideas, the dynamics in the interaction between a person's intentions and the forces of the environment into a new terminology, the field theory, and, a second example, whereas Lev Vygotsky (1935) was successful in transferring Stern's concept of proximal space to school and learning contexts by creating a "zone of proximal development", Stern himself, in his later years, unfortunately was not able to formulate new concepts which could attract a broader academic public. He found himself in a foreign culture and, although holding lectures, did not have the opportunity to further discuss his ideas with younger scientists. Nevertheless, Stern should not be forgotten as his influence is indirectly still present not only in Piaget's concept of equilibration (Stern's convergence theory) but in the prevailing process-oriented perspective of person-environment

interplay and, last not least, the person as a unique unit, never totally covered by the enumeration of single traits or characteristics.

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Sternberg, Robert J.

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Robert J. Sternberg is Professor of Human Development at Cornell University and Honorary Professor of Psychology at the University of Heidelberg in Germany. He conducts research on a variety of topics, including human intelligence, creativity, wisdom, ethics, leadership, thinking styles, love, and hate.

Early Life and Educational Background

Sternberg was born in Newark New Jersey in 1949. His father sold buttons and threads, and his mother was a housewife. Neither was graduated from high school. He attended public schools in Maplewood, NJ. Sternberg's B.A. is from Yale (summa cum laude, honors with exceptional distinction in psychology), and his Ph.D. in psychology is from Stanford. Sternberg also holds 13 honorary doctorates from universities in 12 different nations.

Sternberg's interest in psychology, in general, and in individual differences, in particular, dates back to elementary school, when he did poorly on the group intelligence tests that were given on a

regular basis in his elementary school. In seventh grade (age 13) he did a project on the development of mental testing, which cemented his interest in intelligence. The project involved creating his own intelligence test and also administering the Stanford-Binet Intelligence Scale to some of his friends. He found the Scale in his public library and adopted it for his purposes. He got into serious trouble with school authorities for giving the test to classmates. In Grade 10, he did a study on the effects of distractions on mental-ability test performance, and in Grade 11 he created a physics aptitude test that was used by his school to select students for honors physics classes.

Professional Career

Before coming to Cornell, Sternberg was President of the University of Wyoming, Provost and Senior Vice-President of Oklahoma State University, Dean of Arts and Sciences at Tufts University, and IBM Professor of Psychology and Education and Professor of Management at Yale University. Sternberg is a past-president of the American Psychological Association (as well as four of its divisions), Federation of Associations in Behavioral and Brain Sciences, Eastern Psychological Association, and International Association for Cognitive Education and Psychology. Sternberg is Editor of *Perspectives in Psychological Science*. Previously, he was editor of the *APA Review of Books: Contemporary Psychology* and of the *Psychological Bulletin*. He also has been associate editor of *Child Development* and of *Intelligence*. Sternberg also served for many years as Associate Director of the National Center for Research on the Gifted and Talented.

Sternberg is the author of roughly 1600 publications. He has been cited about 125,000 times. His h index (number of publications h cited at least h times) is 173 and his i10 index (number of publications cited at least 10 times) is 857.

Sternberg has won over two dozen awards in his career, including both the William James Award and the James McKeen Cattell Award from the Association for Psychological Science.

Sternberg is a member of the American Academy of Arts and Sciences and the National Academy of Education. He is a fellow of the American Psychological Association, Association for Psychological Science, American Educational Research Association, and American Association for the Advancement of Science.

Sternberg's years in administration were spent trying to put his ideas about abilities into practice. For example, as a dean at Tufts, he and his colleagues implemented the Kaleidoscope Project, which was a selection system that assessed students for analytical, creative, practical, and wisdom-based skills. He also formed a Center for the Enhancement of Learning and Teaching to teach professors how to teach via the theory of successful intelligence. As provost and senior vice-president of Oklahoma State University, he and his colleagues implemented a similar program called Panorama.

Although most of Sternberg's career has been spent writing books and articles for professional audiences, he also has written several trade books and textbooks. His textbook *Cognitive Psychology*, coauthored with Karin Sternberg, has been published in seven editions, and *The Psychologist's Companion*, also coauthored with Karin Sternberg, has been published in six editions.

Research Interests

Intelligence

Sternberg's main research interest has been in the study of *human intelligence*. He first proposed (1977) a componential theory of human intelligence, according to which human intelligence can be understood in terms of its underlying information-processing components. These components, he suggested, are of three kinds: meta-components – which plan, monitor, and evaluate problem solving; performance components – which enact the instructions of the meta-components; and knowledge-acquisition components – which learn how to solve problems in the first place. His research at this point consisted of componentially analyzing performance on

information-processing tasks better to understand the information processing underlying intelligence. Using componential analysis, it is possible to identify the components of human intelligence, the strategies into which the components combine, the mental representations upon which the components and strategies act, and the latencies and error rates of the individual components.

By 1984, he expanded the theory into what became the triarchic theory of human intelligence, according to which intelligence involves the analytical abilities analyzed in the componential theory (and measured in conventional intelligence tests), but also creative abilities and practical abilities. Intelligent individuals, by this account, are ones who creatively can generate new and compelling ideas, then analyze them effectively, and finally implement them and persuade others of their value.

By 1996, the triarchic theory was replaced by the theory of successful intelligence, which particularly emphasized that intelligence individuals are ones who figure out their strengths and weaknesses, and then capitalize on their strengths while simultaneously compensating for or correcting their weaknesses. Thus, simply being “good” in certain abilities is not enough for successful intelligence – one further needs to leverage strengths and find ways to deal with weaknesses.

Sternberg and his colleagues engaged in a number of empirical studies to show that creative and practical intelligence are relatively independent of each other and of analytical intelligence. For example, studies with college students showed that creative thinking is relatively distinct from analytical thinking, yet predicts school performance. Further studies with business people, salespeople, college professors, and others showed that practical intelligence is relatively independent of analytical intelligence and that it predicts job success independently of IQ.

By 2003, the theory had been augmented to include wisdom as a fourth element of intelligence. That is, intelligent individuals further apply their knowledge and their analytical, creative, and practical abilities to serve a common

good, balancing their own, others’, and higher order interests over the long- and short-terms, through the infusion of positive ethical values.

Sternberg’s research over the years has shown that analytical, creative, and practical skills can be factorially separated and that they are relatively (although not wholly) independent. For example, one study showed that measures of creative and practical skills can double prediction of first-year college GPA over SATs while at the same time decreasing ethnic-group differences in scores relative to the SAT.

Sternberg has been especially interested in research across cultures. He has found that different cultures have widely differing conceptions of intelligence. These conceptions, or implicit theories, determine to a large extent how parents bring up their children to be “smart.” That is, people in different cultures emphasize different skills in seeking to bring up a bright child. Whereas Western culture emphasizes analytical skills, other cultures more emphasize social skills, communal skills, and obedience to parents and other authorities. Sternberg also has found that what actually counts as adaptive varies from one culture to another. For example, in Yup’ik Eskimo culture, the academic skills measured by IQ tests count for little, but hunting, gathering, navigation, survival, and ice-fishing skills count for a great deal.

A related program of research was designed to demonstrate that medical interventions can help students learn and think better by freeing them to use their intelligence. In a study in Jamaica, for example, he and his colleagues showed that antiparasitic medications not only improved children’s health but also their cognitive performance.

Sternberg also has been interested in how teachers can teach for successful intelligence. In several studies, he and his collaborators showed that teaching for successful intelligence could improve student performance. If children were taught at least some of the time in a way that enabled them to capitalize on their strengths, they outperformed students who did not get similar opportunities.

Creativity

Sternberg also has been interested in creativity. Creativity goes beyond creative intelligence. Creativity, according to his and Todd Lubart's investment theory of creativity, is an attitude toward life. Creative individuals defy the crowd – they are willing, metaphorically, to buy low and sell high in the world of ideas. That is, they generate ideas that others tend not to accept, then persuade those others of the value of the ideas, and then move on to the next set of creative ideas. Sternberg and Lubart have found that creative people are more likely to take risks than other people and more likely to redefine problems that others see in a more traditional way.

Wisdom

Sternberg further has developed a balance theory of wisdom, according to which wisdom involves the application of one's abilities and knowledge toward the attainment of a common good. Sternberg believes that a serious problem in the world today is that students are educated to develop analytical abilities, not wisdom. Intelligent people are especially susceptible to being foolish because they believe that they are incapable of foolishness. In particular, people lacking in wisdom tend to be unrealistically optimistic about the value of their own ideas, egocentric, falsely believing they are omniscient, omnipotent, and invulnerable, and ethically disengaged. Schools need to teach for wisdom, not just for content knowledge and analytical thinking.

Ethics

Sternberg has proposed a model of ethical reasoning, according to which ethical reasoning requires eight steps: recognizing that there is a situation to which to respond, defining the situation as having an ethical component, viewing the situation as one's personal responsibility, deciding that the ethical element of the situation is serious enough to deserve further attention, ascertaining one or more ethical rules that apply to the situation, applying the ethical rule(s), preparing for possible adverse consequences if one chooses to act ethically, and actually acting. Sternberg has suggested that ethical action is difficult because, in order to

act ethically, one has to go through all eight steps. If one does not complete all eight steps, one is likely to act in a less than ethical manner.

Leadership

Sternberg has proposed that the elements discussed above constitute the basis of good leadership. In particular, his WICS theory of leadership suggests that good leaders synthesize wisdom, academic and practical intelligence, and creativity. When leaders fail, it is rarely for lack of analytical intelligence. Rather, it is much more likely that they have shown a deficit of creativity, common sense (practical intelligence), or wisdom. Thus, the skill that our schools emphasize most in educating students is probably the least important in the suite of skills that matter for good and effective leadership.

Thinking Styles

Sternberg has suggested, as have others, that individuals have different styles or preferences in their ways of learning and thinking. In particular, his theory of mental self-government proposes that people have to govern themselves much in the same way that governments have to govern people. For example, a legislative person is someone who likes to come up with his or her own ideas and does not like to be told what to do; an executive person prefers to be given direction by others; a judicial person likes to evaluate other things and people. In all, there are 13 styles in the theory of mental self-government, corresponding to different ways in which people prefer to think. Sternberg's research on mental self-government, conducted in collaboration with Elena Grigorenko and Li-fang Zhang, has shown that styles predict achievement independently of abilities and that different schools prefer different styles, so that a child that is viewed as acting more smartly in one school may be viewed as acting less smartly in another school because the school does not like the latter's preferred way of thinking.

Love

Sternberg also has studied love, having proposed what he refers to as a duplex theory of love. The duplex theory contains two parts.

According to one part of the theory, the triangular theory, love can be understood in terms of three basic components – intimacy, passion, and commitment. Different combinations of these components yield different kinds of love. For example, intimacy plus passion yield romantic love, intimacy plus commitment yield companionate love, and passion plus commitment (without intimacy) yield fatuous or foolish love. Consummate love is the combination of all of intimacy, passion, and commitment. The different components of love show different time courses and also have different psychological properties. Sternberg has devised and construct-validated a triangular love scale, showing that the three components are differentiable from each other and together predict happiness and satisfaction in love relationships. Sternberg also has found that couples tend to be happier to the extent that they have matching triangles of love.

The other part of the duplex theory, the theory of love as a story, posits that from the time people are born, they are exposed to various kinds of stories of love. The exposure comes from their parents, parents of friends, television, movies, books, and varied life experiences. Over time, as an interaction between an individual's personality and his or her experiences, the individual forms a set of preferred stories of love. People do not have just one story but rather a profile of stories, with stories ranging from more preferred to less preferred. One example of a story is a fairy-tale story, with a prince and a princess. Another example of a story is a horror story, with a perpetrator and a victim. In a business story, there are two business partners, and in a travel story, two individuals travel together through time. There are roughly two dozen common stories. Sternberg has developed and construct-validated a scale to measure love stories and found that although no stories in and of themselves predict satisfaction in love relationships, some stories predict dissatisfaction, such as a horror story and a pornography story. Couples tend to be happier in a relationship when their profile of stories roughly matches.

Hate

Sternberg also has proposed a duplex theory of hate, which is loosely based on his theory of love.

According to this theory, hate has three parts, negation of intimacy, passion, and commitment. Different kinds of hate emanate from different combinations of the components. When all three components are present, hate becomes especially dangerous to the target(s) of the hate. Regrettably, in some settings, adults teach children to hate, and the children then become instruments of the adults' hateful feelings. Hate also is based on a variety of stories, such as the enemy of God story and the controller-of-the-world story.

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Steroids

- ▶ [Hormone Assays](#)

Stigma

- ▶ [Labeling](#)

Stigmatization

- ▶ [Rejection](#)

Still Small Voice

- ▶ [Conscience](#)

Stimuli

- ▶ [Stimulus](#)

Stimulus

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Synonyms

[Abator](#); [Elicitor](#); [Prompt](#); [Stimuli](#)

Definition

A change in energy that affects and organism or individual through receptor cells (Michael 2004). A physical event, a combination of events, or a relationship among events that affect an organism or individual (Catania 2013).

Introduction

A stimulus is a change in energy that affects an organism or individual through their receptor cells

(Michael 2004). Stimuli can also be conceptualized as physical events or a combination of physical events. Further, stimuli are best understood in terms of the relationship they have with an organism's or individual's behavior. That is, physical events (i.e., stimuli) in the environment either increase or decrease the future frequency of behavior of an organism or individual (Catania 2013). However, if a physical event in the environment does not elicit or abate behavior (i.e., there is no relationship), then it cannot necessarily be considered a stimulus that affects behavior. Stimuli can be perceived as visual (e.g., light is on), auditory (e.g., tone), tactile (e.g., touching a hot stove), olfactory (e.g., smell of baking cookies), or gustatory (e.g., sour taste).

The study of stimuli has been a central aspect of study in the fields of learning and applied behavior analysis (Catania 2013; Cooper et al. 2007). Furthermore, the study and application of knowledge about stimuli is an essential feature of experimental and clinical research and the practice of respondent and operant conditioning (e.g., Allen and Kupzyk 2016). Given the real-world utility of the knowledge of stimuli, it is a topic that has been extensively studied. The remainder of this entry will briefly summarize some of the critical aspects of stimuli, including (1) formal dimensions, (2) temporal dimensions, and (3) the functions of stimuli.

Formal Dimensions

Stimuli are measured according to their dimensions. Stimuli can be broadly conceptualized as either social or nonsocial (Cooper et al. 2007). A social stimulus is a stimulus that involves another individual(s) or organism(s), who serves as the stimulus. For example, the presence of a friend (i.e., the social stimulus) may evoke a conversation (i.e., behavior evoked by the social stimulus) with that friend. Alternatively, a nonsocial stimulus is any stimulus that is not another individual(s) or organism(s). For example, the "open" sign (i.e., nonsocial stimulus) at a restaurant evokes walking into the restaurant (i.e., behavior evoked by the nonsocial stimulus).

The delineation of stimuli as either social or nonsocial is stimuli's broadest measurable aspect. However, other formal dimensions of stimuli can be described, measured, and manipulated. These formal dimensions include: (1) stimuli's physical properties (e.g., size, weight, texture, color), (2) spatial position relative to the organism or individual (e.g., how close one is to the stimulus), (3) temporal properties (i.e., how long one is in the presence of a stimulus), and (4) intensity (e.g., brightness of a light, loudness of a sound, amount of pressure exerted) (Allen and Kupzyk 2016; Cooper et al. 2007). In addition to these formal dimensions, stimuli can be classified by their relation to an event in time as well.

Temporal Loci

Because stimuli are physical events due to result of energy changes, they also occur at a certain point and across time. Further, stimuli are best understood in relation to an organism's or individual's behavior; therefore, it also must be conceptualized as when at what point it occurred within and across time in relation to behavior (Cooper et al. 2007). Behavior is affected by stimulus changes that occur either before or after behavior.

An antecedent is an environmental condition (i.e., stimulus) that exists or occurs directly before a behavior occurs (Cooper et al. 2007). Stimuli as antecedents can take on any formal dimension of stimuli previously discussed. An example of a nonsocial antecedent is the presence of a snack machine, while an example of a social antecedent is the presence of someone not seen in a long time.

A consequence is a stimulus change that follows a behavior (Cooper et al. 2007). Although consequences are stimulus changes that follow behavior, behavioral responses do not always cause consequences to occur. That is, consequences can occur following a behavior that do not result because of that behavior. However, consequences that follow behavior that are not caused by behavior can still shape behavior. An example of a consequence in response of a nonsocial antecedent is receiving a snack out of a machine after inserting money, while an example of a

consequence in response to a social antecedent is someone you have not seen in a long time saying “It is so great to see you!” after saying “Hello!”

Functions of Stimuli

Although stimuli can be described by their formal dimensions and temporal loci, stimuli are often best understood by the effect they have on behavior (i.e., function). Stimulus changes can be either immediate or delayed. Immediate effects stimulus changes are powerful at changing behavior but are temporary. Delayed stimulus changes are also powerful at changing behavior but have relatively permanent effects (Cooper et al. 2007). Stimulus changes also function to either increase or decrease the future frequency of a behavior (Cooper et al. 2007). That is, stimuli can have either an evocative or abative effect on the future frequency of a behavior.

Conditioning and Stimulus Control

Stimulus conditioning occurs through two processes: respondent conditioning and operant conditioning. In these two types of conditioning, the presence of stimuli relative to a particular behavior determines whether or not a behavior will come under the control of a stimulus. Stimulus control occurs when the frequency, latency, duration, or magnitude of a particular behavior is reliably altered (i.e., increased or decreased) by the presence or absence of a given stimulus or stimuli (Cooper et al. 2007). The following sections will discuss how a stimulus develops stimulus control through respondent and operant conditioning.

Respondent Conditioning. Respondent conditioning, also known as classical conditioning, is a process by which unconditioned stimuli become conditioned stimuli and begin to produce conditioned responses (Catania 2013). Specifically, an unconditioned stimulus (Wimberly and Dufrene 2017) elicits an unconditioned response (LaBrot and Dufrene 2017); for example, a puff of air (unconditioned stimulus) elicits an eye blink (unconditioned response). If a neutral stimulus

(e.g., tone) is repeatedly paired with an unconditioned stimulus, the neutral stimulus will become a conditioned stimulus and elicit a conditioned response (i.e., eye blink at the sound of the tone: Catania 2013). There are many facets of respondent conditioning, which are beyond the scope of this chapter.

Operant Conditioning. Operant conditioning is a process by which an antecedent stimulus evokes or abates a behavior, and a consequence determines the future frequency of that behavior (Cooper et al. 2007). More specifically, an antecedent is any stimulus that immediately precedes a behavior (e.g., teaching asks a question). An antecedent can evoke (e.g., child raises hand) or abate (e.g., child refrains from raising hand) behavior. The behavior is either strengthened (e.g., teacher praises correct answer) or weakened (e.g., teacher reprimands incorrect answer) by a consequence, which is a stimulus that follows a particular behavior. Through learning, specific antecedents can reliably evoke or abate behavior and particular consequences can reliably strengthen, maintain, or weaken behavior (Cooper et al. 2007). Similar to respondent conditioning, there are many facets of operant conditioning that are beyond the scope of this chapter.

Conclusion

The focus on stimuli has been and is currently a fundamental aspect of the study of respondent and operant conditioning. The study of the formal dimensions, temporal loci, and functions of stimuli has significantly contributed to the understanding of animal and human behavior. Future research and clinical practice are certainly going to be influenced by the continued study of stimuli and their effects on behavior.

Cross-References

- ▶ [Conditioned Stimulus](#)
- ▶ [Operant Conditioning](#)
- ▶ [Respondent Conditioning](#)
- ▶ [Unconditioned Stimulus](#)

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Stimulus Response Dynamism

- ▶ [Transmarginal Inhibition \(TMI\)](#)

Stinson, Danu Anthony

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Danu Anthony Stinson is an Associate Professor of Psychology at the University of Victoria in Victoria, British Columbia, Canada. She is a social-personality psychologist who conducts research concerning (1) self-esteem, (2) interpersonal relationships, and (3) health and well-being.

Early Life and Educational Background

Stinson was born in Findhorn, Scotland, and was raised in Vancouver, Canada. She earned her B.A. in Psychology from Simon Fraser University in Vancouver, Canada, in 2001. She earned her

Ph.D. in social-personality psychology from the University of Waterloo in 2007 under the supervision of John G. Holmes and Joanne V. Wood.

Professional Career

Following her doctoral studies, Stinson was awarded a 2-year postdoctoral fellowship by the Social Sciences and Humanities Research Council of Canada, which she completed at the University at Buffalo, State University of New York, working with Sandra L. Murray. She began her current faculty position at the University of Victoria in 2010. In 2014 she was elected as a Fellow of the Society for Experimental Social Psychology in recognition of substantial contribution to social psychology as an empirical science. She has published numerous high-impact articles in journals such as *Journal of Personality and Social Psychology*, and *Personality and Social Psychology Bulletin*, and has served on the editorial boards of *Psychological Science*, *Personality and Social Psychology Bulletin*, and *Self and Identity*.

Research Interests

Broadly speaking, Stinson's research examines the social nature and function of the self-esteem system and ultimately seeks to identify the consequences of different self-regulatory strategies for social well-being and health. This broad goal is evident in each of her primary lines of research concerning (1) self-esteem, (2) interpersonal relationships, and (3) health and well-being. Her research concerning self-esteem seeks to further develop the sociometer model of self-esteem by demonstrating that the social nature and function of global self-esteem is evident in the content, structure, and organization of the self. Her close relationships research aims to demonstrate the social-regulatory function of the self-esteem system by directly examining its influence on social perception and behavior during relationship initiation. Her health and well-being research cuts across both of the previous lines of work and seeks to understand why low self-esteem is a risk factor for poor social, psychological, and physical well-being.

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Stopping

- ▶ [Response Inhibition](#)

Straightforward

- ▶ [Assertiveness](#)

Strange Situation Procedure

- ▶ [Strange Situation Test](#)

Strange Situation Test

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Synonyms

[Strange situation procedure](#)

Definition

The Strange Situation (Ainsworth et al. 1978) is a standardized observational procedure to assess infant-caregiver attachment relationship in infancy, developed according to Bowlby’s attachment theory (Bowlby 1968, 1973, 1980).

Introduction

The most significant contribution of Ainsworth’s Strange Situation method relies on the recognition of the importance of individual differences in attachment relationships since early infancy. Individual differences in attachment show a considerable predictive capacity for later developmental outcomes, also in adulthood (Weinfield et al. 2008): specifically, early caregiver-infant attachment bonds provide the prototype for future close relationships. Thus, research on attachment in adulthood has largely examined the issue of

individual differences as well, focusing on different organization of attachment behaviors and on expectations on relationships (Crowell et al. 2008). It is important to note that individual differences in attachment do not constitute variations in the presence, strength, or quantity of the attachment bond, rather in the quality of attachment system's organization.

The Strange Situation: The Procedure and Its Coding System, Psychometric Properties and Applications

The Strange Situation comprises increasingly (from mild to moderate) amount of stress for the infant, such as an unfamiliar laboratory context, an unfamiliar interacting adult, and two brief separations from the caregiver (usually the mother). Its aim is activating and intensifying child's attachment behavioral system and highlighting individual differences, concerning expectations about caregiver's availability and the balance between explorative and attachment behaviors. Attachment can be assessed using the Strange Situation from 12 to 24 months of age; a time interval of at least 6 months is required between subsequent administrations.

The procedure is divided into eight episodes (lasting approximately 3 min each), in order to provide windows for observing behaviors' time accurately and for examining behaviors' coherence throughout the procedure. SSP episodes are (1) caregiver-infant dyad enters the laboratory; (2) the infant explores and the caregiver may assist; (3) the stranger enters and interacts with the infant; (4) first separation, the caregiver leaves the room; (5) first reunion, the caregiver returns; (6) second separation, the baby is left alone; (7) the stranger returns; and (8) second reunion, the caregiver returns.

Coding System

Ainsworth's coding system evaluates attachment quality based on infant's behaviors in the whole procedure and particularly during the two reunion episodes, which are considered the most useful indicators. Specifically, the Strange Situation

investigates whether and how the infant is able to use the caregiver (perceived as available, sensitive, and responsive) as a secure base, from which to explore and to return to, when comfort is needed; thus, the balance between attachment and exploration systems is the focus of the observation.

Ainsworth and colleagues' original work (Ainsworth et al. 1978) proposes a broad distinction between secure and insecure attachment patterns and provides instructions for classifying infants' attachment relationships into three main groups: secure (B), insecure avoidant (A), and insecure resistant or ambivalent (C). Moreover, a specific subgroup among eight can be designated, but this classification is rarely considered. Secure infants (B) are able to use the caregiver as secure base: they confidently engage in exploration, express potential distress during separations, are responsive toward the caregiver, and actively seek proximity or contact in reunion episodes. Upon receiving comfort, they are able to soothe and to return to play afterward; they tend to be involved in interactions with the attachment figure throughout the procedure. Secure infants represent 55–75% of nonclinical middle-class groups. In contrast, insecure children perceive their caregiver as not fully responsive at times of need and have developed attachment behaviors that fit or complement the attachment figure's behavior, as an adaptive strategy. Based on an interactive history of rejection and refusal, infants classified as avoidant (A) (approximately 20–22%) over-focus on autonomous exploration at the expense of the attachment system. They display limited affective sharing, conspicuous avoidance of proximity to and of interactions with the caregiver (except for instrumental help), look little distressed during separations, and tend to actively ignore and turn away from the caregiver upon reunions, showing scarce interest in contact seeking and maintaining. Affective displays are minimized, while independent and self-sufficient attitude is emphasized. Based on an interaction pattern with the caregiver characterized by inconsistent responsiveness, resistant infants (C) are considerably not able to use the caregiver as a secure base, compromising the explorative behavior; they show a strong need for proximity

and contact and display elevated distress during separations. Resistant infants are not easily calmed by contact; they may alternate contact seeking with signs of resistance or rejection, indicating the presence of ambivalence in the relationship. Some resistant children may appear passive, failing to seek contact and find comfort. Rates of resistant-ambivalent pattern range from 7 to 12%.

Given the presence of infants difficult to classify according to the three organized attachment patterns, especially in high-risk samples, a further attachment category was proposed (Main and Solomon 1986), named disorganized-disoriented (D). Disorganized infants' behavior is characterized by a lack of observable goal, purpose, or explanation, indicating the lack or breakdown of a coherent attachment strategy/organization toward the caregiver. Behaviors are contradictory and interrupted; they include stereotypes, direct fear of parent, and confusion. Classification D is assigned in addition to A-B-C category, related to the underlying pattern of organized attachment. The explanatory power of D category emerges in high-risk and clinical samples (rates of 50–75% versus 15% in nonclinical infants) (van IJzendoorn et al. 1992).

Another part of the classification process relies on the use of infant-caregiver interactive behavior scales: proximity and contact seeking, contact maintaining, avoidance and resistance to contact and interaction, search for the mother during separations, and distance interaction. Scales are rated on seven-point Likert scale based on infant's behavior toward the caregiver and/or the stranger during appropriate episodes.

Psychometric Properties

Studies on the validation of the measure have reported overall good psychometric properties (Simonelli et al. 2012; Solomon and George 2016). Inter-rater agreement for SSP is high, especially among within-laboratory researchers and in a lesser extent but still reassuring when inter-laboratory rates are examined. With regard to continuity over time, results are mixed: Ainsworth reported low levels over a very brief period, while stability varied substantially from low to very high within toddlerhood, early childhood, and

later developmental ages. Moreover, extensive research has reported that attachment quality can be revised as consequence of major shifts in close relationships and/or life events. Given its potential variability over time and its different declinations from one caregiver to another, attachment security cannot be considered a general personality trait, rather the result of actual experiences. As regards concurrent validity, Strange Situation's observations and classifications were originally validated by Ainsworth with respect to home-based patterns of infant's behavior toward the mother and confirmed by further studies in naturalistic settings (De Wolff and van IJzendoorn 1997) and on other measures of attachment security, such as Attachment Q-sort (Vaughn and Waters 1990). Ainsworth provided first evidence of the predictive value of mothers' behaviors in terms of sensitivity, acceptance, cooperation, and accessibility toward infant attachment classifications. Subsequent research on antecedents confirmed the central influence exerted by the history of mother-child interactions on individual differences in attachment, in a greater extent than genetic and biological factors. However, a meta-analytic study (De Wolff and van IJzendoorn 1997) concluded that maternal sensitivity, although important, is not the unique contribution to attachment security. In addition, studies on Pattern D revealed the role of frightening/frightened caregiver's behavior.

Empirical findings attest a predictive value of infant attachment, reporting a significant association between early attachment security and long-term developmental outcomes, such as individual adjustment, school performance, social, and close relationships.

Strange Situation Applications

The Strange Situation has been widely used in studies of infants from different countries, beyond Western culture and including African, Asian, and Middle-Eastern samples (van IJzendoorn and Sagi-Schwartz 2008). Studies indicated security as the normative pattern cross-culturally, but variations have been detected regarding the distributions among insecure groups and have been attributed to cultural differences in maternal behavior and childrearing practices.

The application of the Strange Situation in clinical and high-risk groups attested the prevalence of insecure and/or disorganized attachment relationships, indicating caregivers' mental disorder as a particularly severe condition capable of interfering with the establishment of a secure attachment relationship, in a greater extent than child problems (van IJzendoorn et al. 1992).

Conclusion

The Strange Situation procedure represents the most widely used methods to assess attachment in infancy, as proved by the considerable and increasing number of empirical studies, and it constitutes the standard for assessment at later ages. Despite its strengths and valuable contribution, some limitations should be acknowledged (Lamb et al. 1984) such as low levels of ecological validity and representativeness. First, Ainsworth focused on the specific mother-infant attachment relationship: thus, results cannot be applied to relationships with other caregivers that can be tested only replicating the procedure. Second, Ainsworth's pioneering results and the majority of later studies included biased sample made of Western dyads, leading to limited generalizability of their findings; moreover, a cohort effect could play a role given the ongoing changes in childrearing practices. The procedure has been criticized for being brief, making unlikely to tap all the relevant aspects of infant attachment (in contrast to Q-sort procedure based on naturalistic home observations) (Vaughn and Waters 1990) and for its categorical coding system, unable of capturing the different degree of attachment behaviors activations. Another constraint is that SSP applications cover a limited age range (12–24 months); although modified procedures have been developed for preschool children, taking into consideration their cognitive capacities and different sensitivity to stress, further studies are still required.

Cross-References

- ▶ [Anxious-Ambivalent Attachment Styles](#)
- ▶ [Attachment Theory](#)
- ▶ [Avoidant Attachment Style](#)

- ▶ [Disorganized Attachment Style](#)
- ▶ [Insecure Attachment](#)
- ▶ [Parent-Child Relationships](#)
- ▶ [Working Models of Self and Other](#)

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Stratification

► Social Hierarchies

Streiner, David L.

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David L. Streiner is an Emeritus Professor at McMaster University and a Professor at the University of Toronto, both in Ontario, Canada. His major foci are the effects of various conditions on quality of life, the homeless mentally ill, psychometrics, research design, and statistics.

Early Life and Educational Background

Streiner was born in the Bronx, in New York City, on November 12, 1941. After attending the Bronx High School of Science, he received a B.A. in Psychology from the City College of New York in 1963. He earned an M.S. Clinical Psychology from Syracuse University in 1965 and then completed his Ph.D. in Clinical Psychology at the same institution, under the direction of Dr. Sanford Dean. His dissertation was on the effects of task complexity and verbal evaluation on the learning of patients with schizophrenia. He did his internship at the VA Hospital in Syracuse.

Professional Career

After graduation, Streiner began working in the Department of Psychiatry at McMaster University

(now called the Department of Psychiatry and Behavioural Neurosciences) and in the Psychology Department of the Hamilton Psychiatric Hospital (HPH). In 1971, he became the Director of Research at HPH. In 1974, he moved to the newly opened McMaster University Medical Centre (MUMC), where he was the Chief Psychologist from 1974 until 1986. That year, he moved his primary appointment to the Department of Clinical Epidemiology and Biostatistics at McMaster, where he was Deputy Chair as well as Director of the graduate training program, each for 3 years. He remained as a Staff Psychologist at MUMC until he retired from McMaster University in 1998. The following day, became the founding Director of the Kunin-Lunenfeld Applied Research Unit and the Assistant Vice President of Research, both at the Baycrest Centre, which is a fully affiliated geriatric teaching hospital of the University of Toronto. At the same time, he became a Professor in the Department of Psychiatry at Toronto, with affiliate appointments in the Faculties of Nursing, Social Work, and Rehabilitation at that university. He retired from Baycrest in 2009 and continues working part-time at both McMaster University and the University of Toronto.

Between 1987 and 1990, Streiner was the Chair of the Section of Health Psychology of the Canadian Psychological Association. In 2001, he became the first Chair of the Jurisprudence and Ethics Examination Committee of the College of Psychology of Ontario. He served as Chair of the Research Ethics Board of the MUMC for 8 years, Chair of the Clinical Ethics Committee for 7 years, and Deputy Chair of the Research Ethics Board at Baycrest for 10 years.

Streiner has published over 360 peer-reviewed articles, in addition to 28 articles in a series called “Research Methods in Psychiatry” for the *Canadian Journal of Psychiatry*; 34 articles with Geoff Norman in the “Practical Biostatistics” series for the *Journal of Community and Supportive Oncology*; and 23 “Commentaries” in the *Journal of Clinical Psychopharmacology*. Further, has written 42 book chapters and coauthored or edited 9 books, including *Biostatistics: The Bare Essentials* and *Health Measurement Scales*.

Streiner was one of the founding editors of *Evidence-Based Mental Health* and Senior Scientific Editor of *Health Reports*, which is a publication of Statistics Canada. He is currently on the editorial boards of the *Archives of Women's Mental Health*, *Chest*, *Assessment*, the *Canadian Journal of Behavioural Sciences*, the *Canadian Journal of Psychiatry*, the *Journal of Community and Supportive Oncology*, *Comprehensive Psychology*, the *Journal of Personality Assessment*, *Practice Innovations*, and *Perceptual and Motor Skills*.

Awards and Honors

In 2004, Streiner received the first Graduate Course Director Award from the Institute of Medical Sciences at the University of Toronto. In the same year, he received the Alexander Leighton Award in Psychiatric Epidemiology from the Canadian Psychiatric Association and the Canadian Academy of Psychiatric Epidemiology. In 2010, his book, *When Research Goes Off the Rails*, which he coedited with Souraya Sidani, won the Book of the Year Award from the *American Journal of Nursing*. He is a Fellow of the American Psychological Association, the Canadian Psychological Association, and the Society for Personality Assessment.

Research Interests

One of Streiner's interests is the effects of various conditions on quality of life. These conditions have at various times included severe burns, extreme prematurity (infants born weighing less than 1,000 g), epilepsy in children and youths, and homelessness in those with moderate to severe mental disorder. The last was part of a 5-year, \$110,000,000 multisite randomized controlled trial of a Housing First intervention, led by Paula Goering. A second interest regards the psychometric properties of objective tests used by psychologists, including the Minnesota Multiphasic Personality Inventory, the Millon Clinical Multiaxial Inventory, the Shipley Institute of Living Scale, the Millon Behavioral Medicine Diagnostic, and others.

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Strelau, Jan

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Jan Strelau is a personality psychologist who has conducted research in the fields of (1) temperament, (2) individual differences, (3) behavior genetics, and (4) psychological consequences of extreme stressors. He has been a professor emeritus at the Faculty of Psychology, University of Warsaw (UW), Poland (PL), since 2001.

Early Life and Educational Background

Professor Strelau was born on May 30, 1931, in Gdańsk, PL (former Free City Danzig). He earned his M.A. degree in psychology from the UW in 1958 and his Ph.D. from the UW under the direction of Professor Mieczysław Kreutz. In 1976 he received the title of professor.

Professional Career

Professor Strelau taught and conducted research at the Faculty of Psychology, UW, from 1957 to 2001 where he held successive positions starting as assistant (1957) to professor (1976–2001). He was the founder and head of the Department of Psychology of Individual Differences, UW (1983–2001), director of the Institute of Psychology, UW (1978–1981), and founder and head of the Interdisciplinary Center for Behavior-Genetic Research, UW (1998–2001). In 2001–2002 he served as the dean of the Faculty of Psychology at the University of Social Sciences and Humanities (SWPS), Warsaw, and served as the vice rector for Research from 2002 until 2012. Between 2012 and 2016, he sat as chairman of the Board of Trustees at SWPS. He was also elected as vice president of the Polish Academy of Sciences (PAS, 2003–2006, full-time job).

Professor Strelau was a visiting professor at several universities: (1) University of Helsinki, Institute of Psychology, Finland; (2) Free University, Institute of Psychology, Amsterdam, The Netherlands; (3) University of Leipzig, Wilhelm Wundt Chair, Germany; (4) University of Bielefeld, Department of Psychology, Bielefeld, Germany; and (5) Kwansei Gakuin University, Department of Psychology, Nishinomiya, Japan.

During his research career, Professor Strelau has authored or coauthored 22 books and 300 articles which have appeared, among others, in the *Journal of Individual Differences*; *Personality and Individual Differences*; *The Behavioral and Brain Sciences*; *European Journal of Personality*; *Journal of Personality, Anxiety, Stress, and Coping: An International Journal*; *Journal of Research in Personality*; and *Journal of Affective Disorders*.

Research Interests

Professor Strelau's initial research activity was in close cooperation with Russian psychologists, Boris Teplov and Vladimir Nebylitsyn, which started in the second half of the 1950s and concentrated on the study of the properties of the

central nervous system (CNS). Using a variety of unconditioned reinforcements and different indicators of CNS properties in experimental settings, he was able to show that the assessments of these properties are highly dependent on the kind of unconditioned reinforcements as well as on the specificity of indicators applied in these studies (so-called "partiality" phenomenon).

At the end of the 1960s, Professor Strelau developed the first inventory aimed at assessing the behavioral expressions of the basic CNS properties as understood by Pavlov. This inventory known as the Strelau Temperament Inventory (STI) has been applied in dozens of countries. STI allowed scientists working in the domain of personality and temperament to relate their own constructs to the Pavlovian concepts as studied on the psychometric level. In the beginning of the 1990s, this inventory was essentially modified, in cooperation with Alois Angleitner (University of Bielefeld, Germany) and Benjamin H. Newberry (Kent State University, USA), and is known as the Pavlovian Temperament Survey (PTS). The success of PTS has resulted in it being adapted to different languages in 16 countries (see Strelau et al. 1999).

Taking as a point of departure the theory of CNS properties as developed by Pavlov and the Russian followers, the construct of arousal, and the theory of action, Professor Strelau developed the Regulative Theory of Temperament (RTT). The data collected in different laboratories have provided strong support in favor of the RTT, especially with regard to the functional significance of temperamental traits, such as perseveration, briskness, sensory sensitivity, emotional reactivity, endurance, and activity. Using a "temperament-stress" model as a starting point, it was shown in laboratory and field studies that temperamental traits play a role as moderators in respect to stressors, the state of stress, coping with stress, as well as the costs of the state of stress. These data have far-reaching consequences in applied fields, and this model has been adapted in consulting centers for pilots, firemen, and professional drivers. Professors Strelau and Bogdan Zawadzki developed an inventory, The Formal Characteristics of Behavior: Temperament Inventory

(FCB-TI), which gained international popularity. This inventory is applied in the USA, Italy, Germany, Russia, The Netherlands, South Korea, Ukraine, and China.

Professor Strelau and his group, in cooperation with German psychologists (Angleitner and his coworkers), conducted a large-scale study known as the Bielefeld-Warsaw Twin Project (BWTP) on temperament and personality. The BWTP was the first one based on behavior genetics conducted in Poland as well as in Germany after the Second World War.

Professor Strelau chaired a large research project “man under disaster” aimed at the study of psychological and psychophysiological costs (expressed in PTSD and biochemical measures) and the role of individual characteristics, including temperament, considered as moderators of the relationship: “stressor–psychobiological costs.” Under the influence of this project, a number of consecutive projects have developed to show the significance of temperament and other personality variables in moderating or mediating trauma in different disaster scenarios (flood victims, fire victims, survivors of coal mining catastrophe, and car accidents).

Honorary Distinctions

Professor Strelau is a member of the Polish Academy of Sciences (PAS) (1986–present) and Academia Europaea (1989–present) and a foreign member of the Finnish Academy of Science and Letters (1998–present). He received the dignity of doctor *honoris causa* of the University of Gdansk (PL); State University of Humanistic Sciences in Moscow, Russia; Adam Mickiewicz University, Poznań (PL); University of Warsaw (renewal doctorate – equivalent of Dr h.c.); and SWPS University, Warsaw.

Selected Organizational and Editorial Activity

Professor Strelau is one of the founders and the first president of the European Association of

Personality Psychology. He had also been president of the International Society for the Study of Individual Differences, member of the Executive Committee International Union of Psychological Science (IUPsyS), and vice president of IUPsyS (1996–2000). Furthermore, he was editor in chief of the journal *Polish Psychological Bulletin*, associate editor of the journal *European Psychologist*, and a member of the editorial board in several journals, e.g., *Journal of Individual Differences*.

Research Fellowship

Professor Strelau conducted research at the following institutions: Institute of Psychology of the Academy of Pedagogical Sciences, Laboratory of Psychophysiology of Individual Differences, Prof. V. D. Nebylitsyn, Moscow, USSR; University of Illinois, Department of Psychology, Prof. J. Hirsch and Prof. R. B. Cattell, Champaign-Urbana, USA; University of California, Department of Psychology, Prof. R. D. Tuddenham and Prof. R. S. Lazarus, Berkeley, USA; fellowship of the British Psychological Society; and fellow in residence of the Netherlands Institute for Advanced Study in the Humanities and Social Sciences (NIAS), Wassenaar, The Netherlands.

Academic Awards (Selected)

1. Humboldt Research Award for foreign academics in recognition of *outstanding international achievements in personality research* (Alexander von Humboldt Foundation, Bonn, Germany)
2. Max Planck Research Award for *international outstanding research achievements*, together with Alois Angleitner (The Max Planck Society, Munich, Germany)
3. *New Europe Prize 1997 for Higher Education and Research* (jointly administered by six Centers for Advanced Studies – Stanford, Princeton, North Carolina, Wassenaar, Uppsala, and Berlin)
4. *Lifetime Achievement Award*, The European Association of Personality Psychology

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Strength of Emotional Experiences

- ▶ [Emotional Intensity](#)

Stress

- ▶ [Distress](#)
- ▶ [Negative Affectivity](#)
- ▶ [Personality and Stress](#)
- ▶ [Tolerance](#)

Stress Hormones

- ▶ [Hypothalamic–Pituitary–Adrenal Axis](#)

Stress Hypotheses

- ▶ [Hypothalamic–Pituitary–Adrenal Axis](#)

Stress Immunity

- ▶ [Fearlessness](#)

Stress Reactivity

- ▶ [Arousability](#)
- ▶ [Hypersensitivity](#)

Stress Response

- ▶ [Hypothalamic–Pituitary–Adrenal Axis](#)

Stress Sensitivity

- ▶ [Hypersensitivity](#)

Stress Syndrome

- ▶ [General Adaptation Syndrome](#)

Stress Vulnerability

- ▶ [Arousability](#)
- ▶ [Hypersensitivity](#)

Stress-Regulation

- ▶ [Emotion Regulation](#)

Stress-Related Growth

► [Posttraumatic Growth](#)

Stricker, George

George Stricker
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George Stricker is Professor of Psychology at the American School of Professional Psychology at Argosy University Washington DC. He is a clinical psychologist whose primary area of interest is integration, with additional interests in ethics and professional training.

Early Life and Educational Background

George Stricker was born on November 6, 1936, in the Bronx, NY. He received his undergraduate education at the University of Chicago and earned a Ph.D. in Clinical Psychology at the University of Rochester in 1960. He was awarded an honorary PsyD from the Illinois School of Professional Psychology, Meadows Campus, in 1997.

Professional Career

After a postdoctoral year at Rochester and 2 years at Goucher College, Stricker was at Adelphi University between 1963 and 2004, where he served as Dean of the Derner Institute for a decade and was Distinguished Research Professor of Psychology in the Derner Institute, Adelphi University. After leaving Adelphi, the university established the George Stricker Fellowship for an outstanding and productive graduate student as well as the George Stricker Award for Scholarship and Service for an undergraduate student.

Dr. Stricker is a Diplomate in Clinical Psychology and was elected as a Distinguished

Practitioner in Psychology. He received the American Psychological Association Award for Distinguished Contribution to Applied Psychology in 1990, the American Psychological Association Award for Distinguished Career Contributions to Education and Training in Psychology in 1995, the National Council of Schools and Programs of Professional Psychology Award for Distinguished Contribution to Education and Professional Psychology in 1998, the Allen V. Williams, Jr. Memorial Award from the New York State Psychological Association in 1999, the Florence Halpern Award for Distinguished Professional Contributions in Clinical Psychology from the Society of Clinical Psychology (Division 12) in 2002, the Bruno Klopfer Lifetime Achievement Award from the Society for Personality Assessment in 2005, and the Wellner Memorial Award for Excellence as a Senior Health Services Provider in Psychology in 2005 from the National Register. He has been President of the Division of Clinical Psychology of the American Psychological Association, the Society for Personality Assessment, the New York State Psychological Association, and the National Council of Schools of Professional Psychology.

Research Interests

Stricker's interests have been in ethics, professional training, and integration. In the area of ethics, he served as Chair of the Ethics Committee of the New York State Psychological Association and also of the American Psychological Association's (APA) Ethics Committees. He also has written several articles and book chapters as well as two books in this area.

In professional training, Stricker was one of the original members of the National Council of Schools and Programs in Professional Psychology (NCSPP). He was a coeditor of three books prepared through NCSPP, including a volume prepared during his presidential term (Stricker et al. 1990). His work on the local clinical scientist (Stricker and Trierweiler 1995; Trierweiler and Stricker 1998) emphasized his long-standing interest in the integration of

science and practice. In this regard, he also contributed a significant article to this area (Stricker 1997). In these works, he espoused the view that the clinician can serve as a scientist in the consulting room, using whatever empirical evidence was available as well as raising and testing hypotheses during psychotherapy sessions. This process can also result in publishing clinical observations, leading to further testing and establishing of clinical evidence.

In addition to the integration of science and practice, Stricker also has worked extensively on psychotherapy integration. He was a founding member of the Society for the Exploration of Psychotherapy Integration and wrote many articles (Gold and Stricker 2001; Stricker and Gold 1996) and books (Stricker and Gold 2006; Stricker 2010) in this area. He also prepared a video demonstration of psychotherapy integration for a series published by APA (American Psychological Association and Stricker 2010). The major emphasis of this work was an approach to psychotherapy referred to as assimilative psychodynamic psychotherapy. In this approach, the therapist maintains a consistent theoretical stance (relational psychodynamics) but assimilates treatment interventions that are more clearly associated with other theoretical positions. A great many psychotherapists probably follow a variant of this approach, perhaps adopting different theoretical vantage points but then assimilating techniques from other approaches. This differs from eclecticism in that there is a consistent and central theoretical position to accompany the variety of techniques utilized.

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Striving for Superiority

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Synonyms

[Inferiority complex](#); [Superiority complex](#)

Definition

According to Alfred Adler, striving for superiority is the striving to feel superior in order to overcome feelings of inferiority (Ansbacher and Ansbacher 1956, 1964).

Introduction

Alfred Adler saw striving for superiority as fundamental to human nature. He saw it as an overarching master motive (Ansbacher and Ansbacher 1964) and a “governing dynamic force as one of striving from inferiority to superiority” (Ansbacher and Ansbacher 1956, p. 101). It has been said that the related concept of the “inferiority complex” is potentially Adler’s most

significant contribution to psychology and the contribution that he is most famous for (Bottome 1947). Adler himself acknowledged it as “one of the most important discoveries of Individual Psychology” (Adler 1932, p. 49), although he expressed doubts that the concept was widely understood by psychologists. He defined the inferiority complex as something that “appears before a problem for which an individual is not properly adapted or equipped, and expresses his conviction that he is unable to solve it” (Adler 1932, p. 52).

The “inferiority complex,” however, is a slight misnomer, since Adler was more concerned with the feeling of inferiority (Bottome 1947). Although Adler himself used the term “inferiority complex,” it is possible that he may have used it in a tongue-in-cheek way, and that the term may have originally been applied to his concept by someone else (Milliren et al. 2006). Adler said that the abnormal feeling of inferiority is not correctly described as a “complex” because “it is almost a disease whose ravages vary under different circumstances” (Adler 1929, p. 74).

Adler’s Views on Superiority and Inferiority

Feelings of Inferiority and Superiority

According to Adler, the striving for superiority arises out of, and is an attempt to compensate for, feelings of inferiority (Ansbacher and Ansbacher 1956). Adler (1932) essentially saw feelings of superiority and inferiority as two sides of the same coin. He argued that with some neurotics, the inferiority complex could be found on the surface, through shyness, embarrassment, and guilt. Yet hidden underneath all this is the desire for supremacy and being first at all costs. With others, a superiority complex might be observed through behaviors such as boasting, underneath which lie feelings of inferiority. Adler also argued that the goals of our striving for superiority are not fully known to us and that particular expressions of behavior can reveal what feelings of inferiority are being compensated for.

Although, he said that “we can find in all goals one common factor – a striving to be godlike.” (Adler 1932, p. 60).

The “Inferiority Complex” and Feelings of Inferiority

Adler believed that feelings of inferiority were the source of many problems and argued that “Every neurotic has an inferiority complex” (Adler 1932, p. 49), although many such individuals would deny it. Adler also emphasized that feelings of inferiority did not necessarily manifest themselves as submissive and quiet behavior. In fact, often feelings of inferiority could manifest as arrogance, assertiveness, or aggression. He explained that all of us have feelings of inferiority to some degree and that we are constantly compelled to overcome them by trying to feel superior. However, for those who are suffering from an inferiority complex, these attempts to feel superior are merely self-deception, which never successfully remove the original cause of the feelings of inferiority (Adler 1932).

Adler (1929, 1932) also emphasized that feelings of inferiority are not abnormal, but are only pathological when they overwhelm the individual. He argued that striving for superiority in a healthy individual is flexible, such that these strivings can be adjusted when they cannot be fulfilled in a particular way. Neurotics are distinguished in that they feel that in pursuing their goals they must achieve superiority in a rigid way. Adler (1932) argued that when there is a concrete goal of superiority, an individual has particular habits and symptoms in service of attaining that goal. It so happens that in some instances, these goals are achieved through less than ideal means: “Every problem child, every neurotic, every drunkard, criminal or sexual pervert is making the proper movements to achieve what he takes to be the position of superiority.” (Adler 1932, p. 61). He also believed that individuals with strong tempers and passions were those with strong feelings of inferiority (Adler 1929).

The Origin of Inferiority Feelings

Adler argued that among neurotics, an experience of humiliation in childhood and the original

feeling of inferiority that accompanies it leads to an aggressive attitude that aims to overcome this insecurity. He argued that all neuroticism stems from this need for overcoming this insecurity through superiority (Adler 1928; Ansbacher and Ansbacher 1956). Everybody begins their life as a helpless child, who regards themselves as weak, inadequate, and inferior to the adults around them, resulting in deep feelings of inferiority (Adler 1928, 1929; Ansbacher and Ansbacher 1956). He also argued that the greater the feeling of inferiority, then the greater the need to overcome it. He acknowledged multiple sources of more serious inferiority feelings in childhood, particularly of those who develop neurosis. One was having inferior organs, such as problems with their eyes, ears, lungs, or stomachs (Adler 1928, 1929), which leads to wanting to compensate for this pain and weakness. He even said that many great artists and geniuses had problems with their eyes (Adler 1929). Another cause of strong inferiority feelings is being pampered by parents, and the desire to maintain this parasitism on the mother. And finally, unwanted or hated children develop feelings of inferiority that lead to much more aggressive strivings for superiority. These are the individuals that are most likely to become “criminals, problem children, neurotics, and suicides.” (Ansbacher and Ansbacher 1956, p. 118). Adler acknowledged that parents can treat their child as helpless, like toys, like valuable property, or like they are useless, which can also strengthen inferiority feelings (Adler 1928).

Moreover, people want to hide their feelings of inferiority, because they are considered signs of weakness (Ansbacher and Ansbacher 1956). At the same time, Adler further argued that children also hide their striving for power (Adler 1928). However, he was sympathetic to the plight of those with feelings of inferiority, particularly in instances where these might arise from some physical defect. Adler certainly believed that people could overcome strong feelings of inferiority, and that such individuals needed encouragement, and to understand that they can face difficulty and solve life’s problems (Adler 1928, 1929).

The Ubiquity of Striving for Superiority

Although Adler argued that neurotics could be distinguished by the dysfunctional nature of their inferiority feelings, the striving for superiority could be found in every psychological phenomenon. He argued that striving for superiority “lies at the root of all solutions of life’s problems” and that humans are forever “striving upward from below” (Ansbacher and Ansbacher 1956, p. 103), which continues throughout our entire lives. He emphasized that this striving is innate and something “without which life would be unthinkable” (Ansbacher and Ansbacher 1956, p. 104) and that the striving for perfection is primordial and fundamental to societal evolution (Ansbacher and Ansbacher 1956, 1964). The fact that this striving is found within everybody, he argued, is something that only Individual Psychology has pointed out (Adler 1929; Ansbacher and Ansbacher 1956, 1964).

Adler found evidence of striving for superiority in many places. He went as far as saying that “The striving for superiority in suicide can be understood when we realize that suicide is always a reproach or a revenge. With every suicide, we can always find some one (sic) at whose door he is laying the responsibility for his death” (Adler 1932, p. 53). He also argued that many other behaviors revealed an inferiority complex, including: “children who are ‘backward’ at school, men and women who have found no occupation by the age of thirty or more, or have shelved the problem of marriage, compulsion neurotics who must carry out the same action again and again, insomniacs who weary themselves for the tasks of the day” as well as “masturbation, premature ejaculation, impotence and perversion” and stammering (Adler 1932, p. 55).

Adler saw the “superiority complex” as closely related to the inferiority complex, and often occurring together, with the superiority complex compensating for the inferiority complex (Adler 1929). Adler even argued that humans striving to improve their lives through science are driven by feeling inferior and stated that “it seems to me that all our human culture is based upon feelings of inferiority” (Adler 1932, p. 55). In fact, he argued that if humankind did

not use these feelings of inferiority to our advantage, we would never survive (Ansbacher and Ansbacher 1956). He even framed this within the context of evolution, whereby those who strive for superiority by dominating others conflict with the path of evolution. However, those who strive for perfection at least partly out of social interest can serve the advancement of others, and that this in turn serves the evolution of humanity (Ansbacher and Ansbacher 1964). He saw evolution as moving toward the goal of preserving individuals and species, and striving for perfection allowed mastery of the environment. Those who strive to master others through striving for power rather than striving for the perfection of society are contributing to the decline of the species. Adler was quite clear on judging this striving for power as the “most prominent evil of our civilization” (Adler 1928, p. 73), and that education and the cultivation of the right social feelings for others was necessary. However, when the striving for superiority is driven by social interest, it can be useful and good (Adler 1929). He saw it as being the goal of individual psychology to train individuals in cultivating this striving for perfection out of social interest (Adler 1928).

Superiority and Inferiority Since Adler

Despite the importance of feelings of superiority and inferiority in Adlerian theory, there has been very little empirical research on these concepts (Dixon and Strano 2006; Milliren et al. 2006). Establishing the existence of feelings of superiority and inferiority requires a valid measure of the constructs, and there have been few attempts to do so (Dixon and Strano 2006). An early attempt to measure the inferiority complex using Adlerian theory was made by Heidbreder (1927), who was concerned primarily with variation in the inferiority complex in “normal” individuals. She argued that the distribution of scores on her scale indicated that even these more pathological aspects of the inferiority complex are found within “normal” populations. While other researchers have attempted to measure feelings of inferiority and superiority,

Heidbreder’s is the only known attempt based directly on Adlerian theory, although this has also been criticized as inadequate (Dixon and Strano 2006).

As noted earlier, the “inferiority complex” is a concept that Adler is perhaps most famous for (Bottome 1947). However, it has been argued that Adler’s ideas about striving for superiority, among others, have largely influenced the positive psychology movement, although he is almost never acknowledged for any contribution (Watts 2011). Watts argued that Adler’s more mature theoretical formulation of striving for superiority as the striving for perfection out of social interest reflects the desire to move toward a more positive life. This growth-oriented approach predates many of the early figures that are typically cited in the positive psychology movement, such as Abraham Maslow and Carl Rogers. In fact, much of Adler’s focus was on human strengths and healthy development rather than pathology, which led Watts to argue that Adler should be seen as the “Grandfather of Positive Psychology” (Watts 2011, p. 46).

Conclusion

The striving for superiority was one of Adler’s fundamental psychological concepts, and one which he is most famous for. He argued that striving for superiority arises out of feelings of inferiority, beginning in early childhood. While he believed that all individuals have both feelings of inferiority and superiority, these feelings were only problematic when they were the result of more serious causes and led individuals to strive for power over others, rather than the advancement of all.

Cross-References

- ▶ [Birth Order](#)
- ▶ [Individual Psychology \(Adler\)](#)
- ▶ [Parental Influence on Personality Development \(Adler\)](#)

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Structural Equation Modeling

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Definition

Structural equation modeling is a set of multivariate analytical techniques that includes applications such as path analysis, confirmatory factor analysis, latent variable models, and growth modeling. The aim of structural equation modeling is to test the linear relationships between multiple different models simultaneously.

Although, somewhat dubiously, researchers also use structural equation modeling for exploratory data analysis and to generate hypotheses, the main use of this technique is to test a priori theory (Structural Equation Modeling 2016). Structural equation modeling can be used to analyze data collected using various designs such as experiments, quasi-experiments, and surveys.

Introduction

Structural equation modeling is an umbrella term used to refer to different analytical techniques. Using the same principles, researchers can analyze different structures such as (1) measurement models, (2) latent variable models, (3) causal models, (4) growth models, or (5) a combination of the above (Llabre and Arguelles 2013). Ullman and Bentler (2013) identify four stages that apply to the majority of the structural equation modeling applications. These stages are (1) model specification, (2) model estimation, (3) model evaluation, and (4) model modification. The details of these steps and the different applications will be briefly discussed in the following sections.

Four Steps of Structural Equation Modeling

Model Specification

The first step of analyzing structural equation models involves specifying the variables of interest and determining the direction of relationships. The most appropriate method of model specification is to do so based on a priori theory that specifies the relevant group of variables and their relationships with each other (Kelloway 2015). Model specification also requires researchers to identify the type of variables: endogenous and exogenous variables. Exogenous variables are akin to independent variables. They aim to predict the endogenous variables. Similarly, endogenous variables are parallel to dependent and/or mediator variables such that they can either serve as the final

variable of a model or intermediary variables between exogenous and/or other endogenous variables (Kelloway 2015). The model specification step also involves identifying the type of structural equation application (e.g., path analysis, confirmatory factor analysis). Details of these applications will be discussed in later sections.

Model Estimation

In structural equation modeling identification, the ability to estimate a numerical solution is a prerequisite for model estimation (Ullman and Bentler 2013). The number of model parameters must be equal to, or less than, the number of elements in the covariance matrix for a model to be identified. A model is just-identified (or saturated) if the number of matrix elements is equal to the number of parameters in a model. If the number of matrix elements is bigger than the number of parameters, the model becomes over-identified. If the number of data points is smaller than the number of parameters, the model is considered under-identified (Ullman and Bentler 2013). Researchers impose constraints (e.g., set parameters to zero, impose directionality, Kelloway 2015) in order to obtain an over-identified model.

Maximum likelihood, scaled maximum likelihood, partial or unweighted least squares, generalized least square, asymptotically distribution free, and elliptical distribution theory estimator are the most common estimation methods in structural equation modeling (for a full discussion, please refer to Chou and Bentler 1995). Among all these estimators, maximum likelihood is the most consistent, therefore, the most popular one (Kelloway 2015). Hu et al. (1992) suggest the use of maximum likelihood or scaled maximum likelihood estimation when the normality assumption holds and the sample size is bigger than 500. They also recommend the use of generalized least square when the sample size is smaller than 500. The general goal of structural equation modeling is to assess whether the covariance matrix implied by the model equals the observed covariance matrix. When the two matrices are equal, the model is said to “fit” the data.

Model Interpretation

Whether the model fits the data is evaluated using a variety of fit indices. Software packages offer a wide range of fit indices such as chi-square, root-mean-square error of approximation, and comparative fit indices. Each of these indices assesses the fit from a different perspective (e.g., absolute, comparative, and parsimonious fit; Structural Equation Modeling 2016); therefore, which index researchers should consider interpreting the model fit is a topic of ongoing discussion (see Kelloway 2015). That being said, comparative fit index and root-mean-square error of approximation are the two widely accepted indices of fit (Ullman and Bentler 2013).

Model Modification

Model modification refers to the adjustments made on the model to improve the model fit (Kelloway 2015). A researcher can delete a non-significant path or add an additional path to improve the overall model fit. This is a controversial stage as some researchers argue that post hoc re-specification of the model yields to results that violate the principles of the hypothetico-deductive approach and turn it into an exploratory analysis. Researchers have three options to modify their models. They can (1) disregard the theory and modify their models’ use inductively, (2) refer to the existing information and specify a new model, or (3) make modifications in light of the theory. Each of these approaches have advantages and disadvantages (for a detailed discussion, please refer to Kelloway 2015).

Applications of Structural Equation Modeling

Path Models

Path models refer to models where one or more than one exogenous variables are connected with one or more than endogenous variables in different ways. Path models can be as simple as a single univariate regression model where one independent variable predicts a single outcome. They can

also be as complex as a series of moderated mediation models with multiple outcomes. The latter form is more common in the path analysis. Although paths can be unidirectional, two or more variables can have bi-directional (or recursive) relationships (Kelloway 2015).

Latent Variable Models

Two different types of variables can be used when estimating linear equations that are previously defined based on an existing theory. These are observed and latent variables. Observed variables include the exact value of an observation. For example, age is an observed variable. Researchers use the exact number reported by participants when they include age in their models. On many occasions, however, obtaining a direct observation may not be possible. For example, well-being is one of such variables. A direct observation of well-being is impossible; thus, researchers measure factors such as physical health, mental health, or income that make up one's well-being. They use a composite score of these factors to infer well-being. In this case, well-being is a latent variable that is composed of multiple different observed variables.

Latent variables are different than a mere average of the sub-factors. Statistically, a latent variable is the common factor of observed variables (i.e., manifest variables: Ullman and Bentler 2013). Structural equation modeling is capable of testing latent variable models by assessing the factor loadings and regression weights of each manifest variable. Readers should note that manifest variables need to be on a continuous scale for latent modeling.

Measurement Models

Measurement models, also operationalized as confirmatory factor analysis, are used to confirm a previously defined factor structure of a construct. Under the guidance of the theory, researchers identify the sub-facets of a scale and determine the particular items that measure those sub-facets. Using the same method as in the latent variable analysis, regression coefficients and factor loadings of each item are estimated. One can also think of facets as latent variables and individual items as manifest

variables. In the lack of a theoretical guidance, researchers can specify alternative measurement models and compare them (Kelloway 2015). The model with the best fit is usually used in further research; the others are rejected.

Latent Growth Curve Models

Latent growth curve models can be viewed as a special application of confirmatory factor analysis (Preacher et al. 2008). They are used to estimate the change in a variable over time. Similar to latent variable or measurement models, observations taken at different time points can be treated as manifest variables that are nested latent variables in latent growth curve models (Preacher et al. 2008). However, there are three important distinctions between the latent variable models and latent growth curve models. First, there have to be a minimum of three data points measured at different times in latent growth curve models (Kelloway 2015). Otherwise, rate of change cannot be estimated. Second, the number of factors has to be fixed at two in latent growth curve models. These two latent variables are called the intercept and slope. Intercept refers to the initial point, whereas slope refers to the rate of change (Kelloway 2015). Finally, unlike confirmatory factor analysis, factor loadings and regression coefficients are set to a fixed number (Kelloway 2015). This allows researchers to estimate means and variances.

Summary

Structural equation modeling is a name given to a wide variety of statistical applications that are based on linear multivariate regression technique. There are four stages that apply to all structural equation models. These are (1) model specification, (2) model estimation, (3) model interpretation, and (4) model modification. Additionally, there are various applications of structural equation modeling. The most commonly used applications involve path analysis, latent variable models, measurement models, and latent growth models.

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Structural Equation Models

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Synonyms

SEM

Definition

Structural equation models replicate covariance (or correlation) matrices through equations that relate a postulated model and its parameters to the structure and absolute values of the matrices.

Introduction

In psychological research, measurement instruments, such as questionnaires or tests, typically comprise a set of multiple items. Usually, these items are thought to measure the same underlying and not directly observable (latent) construct, which is statistically reflected by their covariance. To find the common components in the covariance structure of a set of items, it is reasonable to assume that components with more variance are also substantially more important, while the others are less important and can be safely treated as noise. This logic has been the foundation for several of the most scientifically surprising findings in psychology, for example, the general factor of intelligence and the “Big Five” personality traits. All of these latent traits cannot be measured directly but are defined by the covariance of several observable (manifest) indicators.

A structural equation model (SEM) is a system of latent variables that aims to be simple enough that it can be estimated and interpreted. At the same time, it should represent the latent variables of interest and their distribution in the real world as closely as possible. The SEM framework includes various methods, such as path analyses and confirmatory factor analyses (CFAs), which, due to the limited scope of this entry, will not be treated individually but rely on the same basic concepts.

In this entry, the most basic definitions and theorems of SEM are introduced and explained. To understand SEM though, it is first necessary to define its constituent parts, that is, its variables and parameters.

Types of Variables and Parameters

In the terminology of SEM, a variable that can be directly measured or observed, such as specific behavior or responses on a questionnaire, is called a manifest variable. Manifest variables are considered to be either continuous (i.e., have an infinite number of different values between two given points) or categorical (i.e.,

have only a limited set of possible values). Psychologists, however, are often more interested in the underlying trait than in one specific manifest variable. Think of a waiter being particularly attentive toward a customer. This one incident would constitute a manifest variable than can be directly observed. To know whether this behavior was due to the specific customer (maybe a close friend) or a more abstract trait, one would however have to obtain multiple observations of the waiter's behavior. The commonality in these behaviors, such as continuous attentive behavior of the waiter, would provide information on the unobservable trait of the waiter's advertence. In the SEM terminology, such a trait would be called a latent variable. While manifest variables must be measurable, latent variables can be constructs, which are not accessible or even not existing in the real world (see Bollen 1989).

A waiter that is attentive toward one customer should generally be attentive toward all customers if there is a latent trait of advertence indicated by this behavior. Statistically, the commonality among several manifest variables indicating a latent variable is thus determined through their covariance, which in the case of more than two variables refers to the variance shared by all of the variables. (In the case of multiple variables, the term covariance is also oftentimes used to refer to all bivariate covariances between all variables. Here, this pattern of covariances will be referred to as the "covariance structure.") The covariance between the different indicators of a latent variable is therefore the first important piece of information when estimating a SEM. Because not all behaviors are equally informative about the latent construct they are related to, the strength of their connection to this construct is also of interest. In terms of the waiter example, most waiters would be attentive toward a person they know very well, while only few would be equally kind toward a particularly rude customer. The manifest observations thus differ in their relation to the latent variable. The strength of this relation is called a manifest variable's loading on the latent variable. Knowing both covariance and loadings of all manifest variables thus suffices to define a basic SEM.

From Model Definition to Structural Equations

The following section describes how the structural equations are derived based on the simple example of a single manifest item X_i that is associated with the latent variable ζ , with $i = 1, \dots, k$ representing the index of the k manifest variables.

Model Definition

A SEM defines the responses to manifest variables as a combination of latent variables. For example, the response R of a person v , with $v = 1, \dots, n$ and n representing the total number of persons, on an item i , represented by R_{vi} in a unidimensional questionnaire, may be defined as a function of the latent variable η_v , representing the measured trait of the questionnaire and a latent measurement error ε_{vi} :

$$R_{vi} = \lambda_i \zeta_v + \varepsilon_{vi} \quad (1)$$

The association between R_i and ζ_v is quantified by λ_i , which represents the loading of item X_i on η . The loading of X_i on ε_i is usually set to 1 for the sake of a simple interpretation of the measurement error. Thus, response R_{vi} depends on a combination of the latent variable ζ_v , representing the person, and the item X_i as well as their connection, represented by λ_i .

Structural Equations

The model definition above is restricted to single values, which obviously does not suffice to recreate the complete covariance matrix of all manifest variables. As SEMs are used to model covariance structures, the definition equations have to be transformed into structural equations, which are achieved by reformulating the relations of single values postulated in the definition equations as relations of variances:

$$\text{Var}(X_i) = \text{Var}(\lambda_i \zeta + \varepsilon_i) \quad (2)$$

To disentangle the right side of the equation, the variance is reformulated in terms of a covariance (note that the covariance of a variable with itself equals its variance: $\text{Cov}(X, X) = \text{Var}(X)$):

$$\text{Var}(X_i) = \text{Cov}(\lambda_i \xi + \varepsilon_i, \lambda_i \xi + \varepsilon_i) \quad (3)$$

The resulting structural equation is then rewritten as

$$\text{Var}(X_i) = \text{Cov}(\lambda_i \xi, \lambda_i \xi) + \text{Cov}(\varepsilon_i, \varepsilon_i) + \text{Cov}(\lambda_i \eta, \varepsilon_i) + \text{Cov}(\varepsilon_i, \lambda_i \xi) \quad (4)$$

Following the rules for the covariance function, this may be reformulated to

$$\text{Var}(X_i) = \lambda_i^2 \text{Var}(\lambda_i \xi) + \text{Var}(\varepsilon_i) + \text{Cov}(\lambda_i \eta, \varepsilon_i) + \text{Cov}(\varepsilon_i, \lambda_i \xi) \quad (5)$$

Finally, the latent error terms are (oftentimes) restricted to be completely independent of other latent variables (including other error terms):

$$\text{Var}(X_i) = \lambda_i^2 \text{Var}(\lambda_i \xi) + \text{Var}(\varepsilon_i) + 0 + 0 \quad (6)$$

$$\text{Var}(X_i) = \lambda_i^2 \text{Var}(\lambda_i \xi) + \text{Var}(\varepsilon_i) \quad (7)$$

It can be seen that the model restrictions, postulating independence of error variances and other latent variables, lead to simplification of the structural equations, which, in turn, neatly reflect the definition equations.

Metrics

In order to estimate the variance of a latent variable, the metrics have to be defined. This is because if the metrics are unknown, the possible solutions for the model are infinite. Thus, in order to introduce fixed metrics to the model, each latent variable has to be assigned one fixed loading (unit loading identification), which fixes the metrics of the latent variable to the metrics of the manifest variable with the fixed loading; the variable with the fixed loading is called the “reference variable.” A second possibility is to fix the variance of the latent variable (usually to 1), which in turn leads to unique solutions for all factor loadings. Even though these two ways are the most common approaches to introduce metrics to the model, other methods have been proposed, such

as fixing the mean loading of a factor to a particular value (Little et al. 2006).

Model Identification

In order to estimate structural equation models, they have to be identified. A model is considered identified if it is (theoretically) possible to obtain a unique estimate for every model parameter. Model identification (unlike the estimation of the parameters) is independent of the sample size N . An example of a model that is not identified is given by

$$13 = 2\alpha + \beta \quad (8)$$

Here, α and β can take on infinite different values that lead to a correct solution (i.e., the estimates are not unique), none better or worse than the other. This is because the model comprises one known (13) and two unknown (α and β) values. A set of equations cannot be solved if it contains more unknown values than equations. In the framework of SEMs, the known values are observed variances and covariances, and the unknown values are the model parameters. Thus, a model with fewer observed parameters than parameters to be estimated cannot be estimated and is referred to as “underidentified” or “underdetermined.” A model that comprises the same number of observations and parameters in its (linearly independent) equations is called “just-identified” or “just-determined,” as in the example below:

$$13 = 2a + \beta \quad (9)$$

$$22 = 3a + 2\beta \quad (10)$$

The model has the simple solution $\alpha = 4$; $\beta = 5$, which is the sole solution to the model given by this set of equations. However, even though the model is identified, it cannot be used to test hypotheses because it can perfectly reproduce the observed data, but no inference about other data (and thus the underlying latent construct) is possible. To be able to infer from a

model or generalize the obtained results, the model has to be “overidentified” or “overdetermined.” An overdetermined model is given by the following set of equations:

$$13 = 2a + \beta \quad (11)$$

$$22 = 3a + 2\beta \quad (12)$$

$$12 = -a + 3\beta \quad (13)$$

No correct solution for α and β can be computed that solves all equations without any error, but the best solution according to a criterion may be derived. If the criterion was, for example, the smallest squared error, the best solution would be $\alpha = 3.83$; $\beta = 5.27$. This is because the model has more observations than parameters, which results in positive degrees of freedom (df). The df of a SEM can be computed using the counting rule (observed values – model parameters). The number of observed parameters is given by the variances and covariances observed in the data, which can be easily computed by Carl Friedrich Gauss’ famous formula:

$$k(k + 1)/2, \quad (14)$$

where k indicates the number of variables in the covariance matrix. Picturing the covariance matrix, it is easy to see why this formula gives the number of covariance plus the number of variances: $k^2/2$ corresponds to half of the elements of the matrix, while the additional $k/2$ adds the other half of the diagonal elements, so that only one side of the off-diagonal elements is spared, so that the result gives half of the off-diagonal elements (all bivariate covariances) plus the diagonal of the matrix (all variances). The degrees of freedom of a given SEM therefore equal $k(k + 1)/2 - p$, where p equals the number of parameters in the model.

Graphical Representations of SEMs

Probably one of the most important reasons for the popularity of SEMs is the straightforward graphical representation via model diagrams.

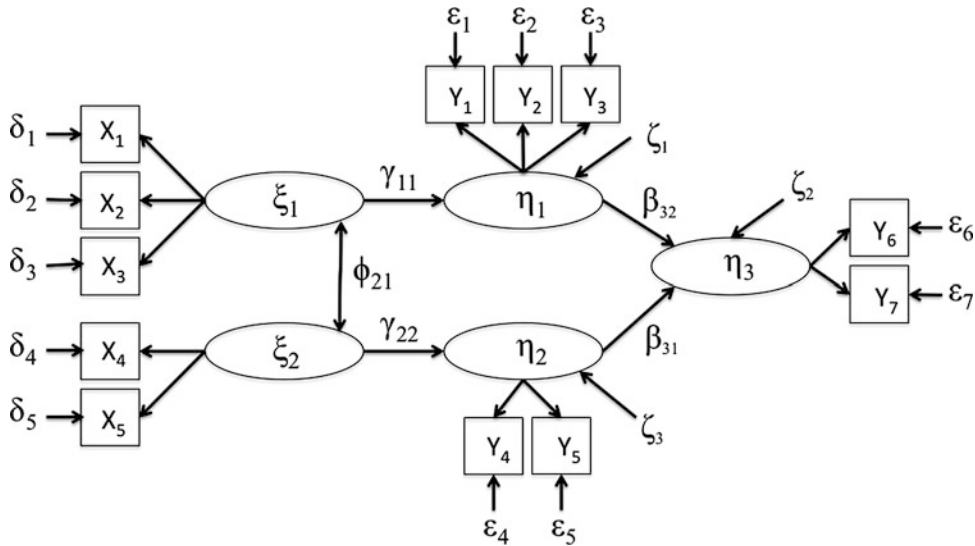
Some programs (such as Amos; Arbuckle 2014) even use the graphical representations to specify complete models, so that the user does not have to bother with the underlying equations. Most graphical representations of SEMs are based on the reticular action model (RAM; McArdle and McDonald 1984), which uses a set of symbols to explicitly represent every model parameter.

A structural equation model may include two types of latent constructs – exogenous variables, which are independent variables in all equations in which they appear, and endogenous variables, which are dependent variables in at least one equation. Both types of latent variables are depicted as ovals. As in the model formulas, exogenous constructs are additionally labeled with the Greek character ξ (Xi). Endogenous variables are indicated by the Greek character η (Eta). Manifest variables are usually depicted as squares and labeled X when associated with exogenous constructs and Y when associated with endogenous constructs. The manifest variables are thus labeled with Latin instead of Greek characters. Loadings of manifest variables on their respective latent variables are labeled with the Greek character λ (Lambda).

Parameters representing regression relations between latent constructs are typically labeled with the Greek character β (Beta) for the regression of one endogenous construct on another endogenous construct. For the regression of an endogenous construct on an exogenous construct, most researchers use the Greek character γ (Gamma). The Greek character ϕ (Phi) is used to label covariance between exogenous constructs.

Finally, the measurement errors for manifest variables associated with X measures (indicators of exogenous constructs) are labeled with the Greek character δ (Delta), whereas error terms associated with Y measures (indicators of endogenous constructs) are labeled with ε (Epsilon). Structural error terms of exogenous variables (the variance in the latent variable not explained by the exogenous variables of the model) are labeled with the Greek character ζ (Zeta).

Figure 1 illustrates a typical SEM consisting of two endogenous (ξ_1 and ξ_2) and three exogenous latent variables (η_1 to η_3). The endogenous



Structural Equation Models, Fig. 1 Graphical illustration of a SEM with two endogenous (ξ_1 and ξ_2) and three exogenous latent variables (η_1 to η_3)

variables share variance ϕ_{21} , and each predicts one of the two endogenous variables η_1 and η_2 (γ_{11} and γ_{22}), which in turn both predict η_3 (through β_{32} and β_{31}).

Multiple-Group Analyses with SEMs

A convenient feature of the SEM framework is the possibility to assess models for multiple groups at the same time. In this procedure, the same general model structure is fitted for all groups, but individual parameters of the model can be allowed to vary between the groups or may be fixed for some groups while being freely estimated for others.

If one, for example, wants to investigate whether the factor loadings of a model are identical for men and women, the model can be fitted for the two groups simultaneously, while the factor loadings are restricted to be equal for both groups. Multiple-group analyses or “multi-sample” CFAs are widely used to test for measurement invariance of models, as various restrictions can be applied to test for stronger or weaker forms of measurement invariance. Kline (2015, Chap. 9) gives a good overview of the use of multiple-group analysis to test for measurement invariance.

Mean Structure and Standardized Parameter Estimates

The covariance matrix does not convey information about the means of the variables. Therefore, the means of the latent variables are set to a value of 0, and the model includes only information about variation in the data. If, however, information about means is warranted, such as for the comparison between different groups or in longitudinal comparisons, the means can be estimated. This is achieved by adding a mean structure to the model, meaning that the means of the observed variables enter the model, following the logic of intercepts in (manifest) multiple regression models.

Notably, estimating the mean structure of a model is only meaningful when the unstandardized values of the parameters are interpreted, because the mean structure is estimated based on the raw data. However, as for manifest regression models, standardized parameters are often also reported, because they can be interpreted without knowledge about the original metrics of the data. Standardized factor loadings, for example, can only take on values between -1 and $+1$ (except for Heywood cases; see, e.g., Heywood 1931), so that the loading

directly provides information about the strength of the association between the manifest and the latent variable, independent of metrics. Most programs that estimate SEMs provide both unstandardized and standardized models, because the information conveyed by both is important for the interpretation of the model.

Parameter Estimation

Parameters of SEMs are generally estimated in an iterative multidimensional estimation algorithm. The estimation of the model parameters can be conducted by various different methods, among which the following are some of the most prominent ones.

- (Robust) Maximum likelihood (MLR/ML)
- Generalized least squares (GLS)
- Asymptotic distribution-free (ADF)
- Weighted least squares mean and variance adjusted (WLSMV)

While the ML and the GLS methods require multivariate normally distributed data, the ADF method does not require a particular distribution of the data but requires a considerable sample size of $N > 3,000$ observations. The WLSMV method, developed by Muthén et al. (1997), allows for the inclusion of dichotomous and ordinal variables in the model. A detailed description of the (dis-)advantages of these (and the many other) methods for parameter estimation in SEMs exceeds the scope of this section by far, so it shall be referred to Kline (2015) and Bollen (1989) for a more exhaustive overview.

Model Fit

The goodness of fit of a statistical model describes how well it fits a set of observations. Measures of model fit typically summarize the discrepancy between observed values and the values expected under the model in question. Model fit in the context of SEM can be indicated by an exact

model test, based on a test statistic following the χ^2 distribution and indices of approximate model fit.

Exact Model Fit

The exact model test is based on the value of the fitting function, which expresses the deviation from exact fit, and the sample size:

$$F^*(N - 1) \sim \chi^2(\text{df}) \quad (15)$$

F denotes the value of the fitting function that can be computed based on the parameter estimation and quantifies the difference between the observed covariance matrix \mathbf{S} and the covariance matrix implied by the model $\mathbf{\Sigma}$. The exact computation of F depends on the estimation method but is generally based on the comparison of $\mathbf{\Sigma}$ and \mathbf{S} (an overview of different computations of F can be found in Bollen 1989).

Fit Indices

A broad range of fit indices has been developed to adequately quantify the degree of a model. The most prominent fit statistic is most likely the χ^2 statistic (also called T statistic by some researchers; see Hu and Bentler 1999), which assesses the magnitude of discrepancy between the sample and fitted covariance matrices, and is the product of the sample size minus one and the minimum fitting function:

$$T = (N - 1)F_{\min} \quad (16)$$

This statistic has an approximate $\chi^2(\text{df})$ distribution and can thus be tested for significance based on the degrees of freedom for the model. Values significantly differing from 0 indicate a mismatch between the hypothesized model and the empirical data. Note, however, that this statistic is highly dependent on the sample size and will become unreliable with larger samples (e.g., Hu and Bentler 1999).

To avoid this issue, several other fit indices have been proposed. These can be classified into absolute and incremental fit indices. Absolute fit indices estimate how well a priori model reproduces the sample data. The most commonly used

absolute fit index is probably the root mean square error of approximation (*RMSEA*), which compensates for the effects of model complexity and sample size. The *RMSEA* has an expected value of zero when the data fits to the model and is calculated as

$$RMSEA = \sqrt{\max\left(\left[\frac{(\chi^2/df) - 1}{(N - 1)}\right], 0\right)} \quad (17)$$

A cutoff value of 0.06 is suggested for the *RMSEA* to minimize type II error rates with acceptable type I error rates (Hu and Bentler 1999).

Incremental fit indices, on the other hand, measure the proportionate improvement in fit by comparing a target model with a more restricted baseline model, which is typically a null model with all covariances between any of the observed variables set to the value 0. The most commonly reported incremental fit index is probably the comparative fit index (CFI), which is normed to have a range from 0 to 1 with 1 representing perfect fit. The CFI is calculated as follows:

$$CFI = 1 - \frac{\max[(T_T - df_T), 0]}{\max[(T_T - df_T), (T_B - df_B), 0]} \quad (18)$$

where T_T and df_T represent the χ^2 statistic and degrees of freedom for the target model, and T_B and df_B represent the χ^2 statistic and degrees of freedom for the baseline model respectively. For the CFI, a cutoff value of 0.95 has been suggested (Hu and Bentler 1999).

Notably, a plethora of other fit indices has been developed (among which the standardized root mean residual, the *SRMR*, is often reported and should undercut a value of 0.11; see Hu and Bentler 1999).

Importantly, reported cutoff values for the *RMSEA*, the CFI, and the *SRMR* were proposed to be applied in combination. This means that acceptable model fit is indicated by all three of them undercutting/surpassing the reported cutoff. For the interested reader, Kline (2015) gives a comprehensive summary of the most common

indices. However, any cutoff values for these indices are not to be taken as “golden rules” because they are known to be strongly affected by particularities of individual models, such as the strength of the factor loadings (Heene et al. 2011).

Modification Indices

After fitting a SEM, it is possible to obtain information about specific local (The term “local misfit” refers to misfit regarding particular parameters of the model. The term “global misfit” is used to refer to misfit regarding the model as a whole.) misfit: modification indices show which changes to the model parameters would increase the fit. To do so, for each restricted parameter, the modification index displays the change in the χ^2 value if this parameter was estimated freely. Modification indices can be used to detect possible flaws in the model, such as correlated errors or cross loadings, which may in turn help to gather additional knowledge about the construct or measurement instrument in question. Yet, as Ben Howard sings so wisely: “There’s coke in the Midas touch.” If a model is adapted to better fit to the data, it loses much (if not all) of its generalizability. Post hoc modification of a model strongly interferes with the usual confirmatory approach of SEMs and should only be applied when it can be theoretically justified, and even then, cross validation is strictly necessary.

Programs

Depending on their complexity, estimating the parameters in SEM can be extremely laborious. Therefore several software packages have been introduced that are specifically designed for SEM modeling. Narayanan (2012) provides a review of the eight most common ones of these packages. They reviewed five proprietary software packages:

- Amos, available from <http://www-01.ibm.com/software/analytics/spss/products/statistics/>

- SAS PROC CALIS, available from <http://www.sas.com>
- LISREL, available from <http://www.ssicentral.com>
- Mplus, available from <http://www.statmodel.com>
- EQS, available from <http://www.mvsoft.com>

In addition, they reviewed three R packages that are freely available:

- R package sem, available from <http://cran.r-project.org/web/packages/sem/index.html>
- R package lavaan, available from <http://cran.r-project.org/web/packages/lavaan/index.html>
- R package OpenMx, available from <http://openmx.psyc.virginia.edu/installing-openmx>

The authors conclude that all programs produce estimates that are fairly close to each other in accuracy (up to two decimals). They see the main difference between the packages in the user interface and the availability of some rather specific options. The packages Amos, LISREL, and EQS provide a graphical interface that makes for a very easy handling. The rest of the packages can only be used in a code-based environment (however, some extensions providing a graphical interface for Mplus exist). Most of the packages have some option of generating graphical outputs, though.

All of the packages provide the basic utilities to estimate various different SEMs. There are, however, differences within the special features provided, which may tip the scales toward one package or the other depending on the utilities needed for a particular application. Users of SEM may therefore choose one package over the other based on the special features needed for a particular application or the computing environment they are already familiar with based on other applications. The R packages (sem, lavaan, and OpenMx; Fox et al. 2012; Rosseel 2012; Bocker et al. 2011) are certainly attractive for users who prefer open-source environments. Mplus has the advantage that multilevel SEMs can somewhat

easily be fitted (yet, this may be achieved with basically any other program if one is willing to go through a fair amount of data wrangling: Muthen 1994 provides a good description for multilevel covariance structure analysis in general).

Conclusion

SEMs provide a powerful tool to investigate the covariance structure of variables by specifying associations between latent and manifest variables. The form of these models can be represented graphically via model diagrams, which can be used to interpret or even specify the models.

Most commonly, SEMs are used to model the associations between manifest indicators and latent variables, such as the items of a personality questionnaire and a personality trait measured with this questionnaire. Therefore, CFAs are one of the most prominent techniques within the SEM framework, as they specify a latent factor structure based on manifest indicators.

The SEM framework provides a broad set of approaches for the analysis of covariance structures, including latent regressions and multiple-group and multilevel analyses. The sheer variety of the possible models, the straightforward interpretation, and the manifold statistical software programs and packages have made SEMs one of the most widely used statistical techniques in psychology and the social sciences. However, this development has to be met with several caveats: even though SEMs are easy to adapt and estimate, it has to be kept in mind that the approach was created for confirmatory analyses. The widespread use of SEMs and the sometimes unsound applications of unvalidated changes to models (often based on modification indices) and lax interpretation of model fit indicators have also led to a variety of models that are very likely not replicable. Any researcher using SEM techniques is therefore required to stick to a careful confirmatory approach when interpreting the model and possible sources of fit and misfit.

Taken together, SEMs are an elegant way of rewriting the covariance structure of variables in forms of latent parameters. If applied soundly, a SEM allows for straightforward interpretation and demonstration of the underlying commonalities in these variables and can be of immense use in almost any field of science.

Cross-References

- ▶ [Correlation Coefficient](#)
- ▶ [Exploratory Factor Analysis](#)
- ▶ [Extraversion](#)

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Structural Imaging

- ▶ [Functional Magnetic Resonance Imaging \(fMRI\)](#)

Structural Model

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Synonyms

[Ego psychology](#); [Ego](#), [Id](#), [Super-ego](#);
[Metapsychology](#)

Definition

The structural model is Freud's theory that the core functions of the mind are carried out by three closely related systems, the ego, id, and super-ego.

Introduction

The mind is not unitary. Despite enduring Cartesian influences, the idea that mental activity is the work of an assortment of processes remains

one of the more plausible guiding assumptions of psychological research. Freud endorsed a distinctive variant of this broader explanatory commitment. Beginning with his earlier metapsychological works, he slowly developed a view of the mind as a collection of closely related systems. Famously, these ultimately became known as the id, the ego, and the super-ego. Like much of Freud's work, the structural model was largely based on the observation of fractures in the mental edifice resulting from various forms of psychopathology. The etiology of such cases was traced to destructive conflicts between the three central components. But while the conflict is indeed definitional of these relations, it need not lead inexorably to the deployment of primitive defenses or to pathological outcomes. Freud described the workings of relatively typical minds in this way, with the constant tension between systems resolvable by way of ongoing negotiation. The model thus aspired to a full explanation of the varieties of mental life. All told, it is probably fair to say that it has had limited influence on psychological research outside the psychoanalytic tradition, although there is continuing interest in its relation to contemporary work in the cognitive sciences, including neuroscience.

Early Iterations

The beginnings of the structural model can be traced to a number of Freud's earlier works. As detailed by Strachey (1961), Freud's longstanding commitment to drive-defense theory provided the basic outline. The early study of hysteria and the resulting notion of repression led to the idea of two separate functional systems, one that held repressed material and another that did the repressing. This shift was often cast in terms of an unconscious system (*Ucs.*) actively repressed by the ego (*Cs.*). But Freud slowly moved away from a dynamic understanding of the unconscious, defined by repression, toward mere description of the mental property of being conscious or unconscious. By these terms, the boundaries of the unconscious were not circumscribed by the presence or absence of

repressed material. Freud was increasingly convinced that parts of the ego were unconscious, an idea first touched on in *Beyond the Pleasure Principle* (1920/1955a). This effectively rendered inaccurate any structural partition between *Ucs.* and *Cs.* and suggested that a new way of dividing up the mind was required. Freud would soon return to this issue, most directly in *The Ego and the Id* (1923/1961). But even earlier he had put several important theoretical pieces in place that would help elucidate the working parts of the mind.

The theoretical line had picked up considerably in Freud's metapsychological works on narcissism and melancholia. In "On narcissism" (1914/1957b), the first version of the super-ego was advanced in the form of a "critical agency" that judges whether the ideals of the ego – or the ego ideal – have been attained. This follows on, developmentally, from the separation of two competing sexual drives, the ego-libido and the object-libido. In early life these drives are blended, with both targeting the ego during the stage of primary narcissism; eventually they diverge, when the infant directs the latter toward its first external object (the parent) and the former remains internally focused. Freud was particularly interested in cases where regression of the object-libido back toward oneself, or secondary narcissism, leading to pathology such as the delusional withdrawal of psychosis. But the role of the ego-libido is also significant. In the standard case, the drives that continue to be directed inwards help establish an ego ideal that represents the self-love and perfection of infancy. Freud speculated that it is accompanied by a separate "special psychic agency" that judges whether the work of the ego is living up to the expectations of the ego ideal. Such a critical or censoring agency, also known as the conscience, helps drive repression based upon parental and societal values. In narcissistic pathology, Freud noted, it can take the form of paranoid delusions or auditory hallucinations of being watched or monitored.

The critical agency, of course, would ultimately become the super-ego, and an even clearer picture emerged in the paper on "Mourning and

melancholia” (1917/1957c). Here Freud stressed the destructive power of the critical agency when it turns its full force against the ego. In contrast to mourning, where the loss of a love object is slowly accommodated by the ego, melancholia occasions a more challenging process, with the ego struggling to guard against the disappointment of the critical agency. The melancholic response to loss entails redirection of the object libido toward the ego, which, in turn, incorporates representations of the lost object. That is, the ego sets up an internal version of the object in a desperate attempt to defend against the accusations of failure issued by the critical agency. This marks Freud’s reintroduction of the concept of identification, first touched on in his paper on Leonardo da Vinci (1910/1957a), memorably described as occurring when the “shadow of the object fell upon the ego.” The process of identification will become essential to the super-ego in the broader structural model. In melancholia, this representation of the former object is attacked by the critical agency, resulting in a damaged ego – or “ego loss” – and unforgiving self-reproach. Freud had thus further elaborated the notion of a mental component responsible for evaluating and censoring, as well as the concept of identification (both are also briefly discussed in *Group Psychology*, 1921/1955b).

The Id, Ego, and Super-ego

The structural model received its fullest treatment in *The Ego and the Id* (1923/1961). Freud introduced this work with a restatement of his growing dissatisfaction with the strict divide between unconscious repressed material and the conscious repression of such. In particular, the observation of resistance in clinical encounters seemed to suggest that the act of repression itself could be unconscious (as did the phenomenon of unconscious guilt). The part of the system responsible for repression, the conscious ego, appears to carry out *unconscious* functions, blurring the lines between the *Ucs* and the *Cs* and therefore necessitating a new structural understanding. What’s more, Freud had recently proposed the dueling

drives of Eros and the death instinct in *Beyond the Pleasure Principle* (1920/1955a).

This would also factor into the later model, primarily in relation to the new concept of the id. Though receiving less detail than the other components, the id is described as the “reservoir” of libido, guided by the pleasure principle of avoiding pain and discomfort. The id lies at the core of mental functioning, fueled by the most basic instinctual drives. It is tasked with mediating between the sexual demands of Eros and the death instinct, while part of it houses repressed material.

The ego develops as a semiautonomous system built on the surface of the id through a process of reality testing. Playing the role of reason to the id’s passion, the ego is modified by its direct relations with perceptual processes, which it deploys in an attempt to control the id by way of exposure to the external world. The ego retains its traditional functions of supervision and censorship, captured by Freud’s slew of evocative metaphors (e.g., politician, man on horseback, frontier-creature, etc.). But it also takes on a new dimension, consistent with the increased prominence of identification in the theory. In addition to the ongoing influence of perception, the construction of the ego begins with the internalization of versions of the parents during the oral stage of early childhood, prior to the taking of libidinal objects. Freud emphasized the importance of this first identification, but it only marks the beginning of the ego’s formation. Things rapidly change with the onset of object-choice, when the ego’s only recourse is to attempt to repress poorly directed cathexes. However, once such objects are abandoned, the ego has another option, which is further identification. As presaged in the paper on melancholia, the ego internalizes lost objects in an effort to draw back and control the id, thereby becoming a storehouse of the history of an individual’s object-choices.

Internalizing abandoned objects in this way is a necessary, if imperfect, process, as it gives rise to the super-ego. Through repeated identifications, the ego builds a “grade” or “differentiation” within itself that holds its ideals and

measures their realization. The super-ego is now what was formerly the ego ideal and critical agency in Freud's earlier works. This is an imperfect process because of the possibility of atypical states such as melancholia, when destructive conflicts arise within and between the super-ego and ego. But the super-ego also serves a necessary – and powerful – function, given that it is a response to the loss of the most important object, that of the parent of the opposite sex following the “dissolution” of the Oedipus complex. In giving up this parent as object, the ego is forced to repress this loss and the only force strong enough is the identification of the other parent. The ego builds the super-ego by intensifying this previously troubling representation; Freud used the metaphor of the male child “borrowing strength” from the father in order to move past this key developmental phase. The super-ego is, therefore, the “heir to the Oedipus complex” (Freud 1923/1961).

Again, this is a delicate arrangement. The ego channels the powerful drives of the id, once focused on parental identifications, into the creation of the super-ego, rendering itself relatively weak by comparison. Indeed, Freud stressed the fact that the ego serves many masters, including the outside world, the libidinal id, and the super-ego. It's not altogether surprising, then, that at times it succumbs to the punishment of the super-ego, as in melancholia, or struggles to repress feelings of guilt issued by the super-ego, as in neurosis. On the other hand, the ego gains strength over time, developing a degree of immunity to the criticisms of the super-ego. It also just so happens that the super-ego carries the highest ideals and aspirations, handed down by one's parents, and these can serve constructive purposes. Freud described this as a contribution toward the building of character, though without much additional specification. The crucial change is the transition from object-libido to ego libido following object loss. This process of desexualization, overseen by the ego as it redirects the power of the id, can lead to sublimation. Though not pursued in detail in *The Ego and the Id*, this indicates that Freud recognized the constructive power of narcissistic drives.

Contemporary Perspectives

While the theoretical extension and clinical application of the structural model have been the subject of ongoing debate, it has had limited impact on research outside the psychoanalytic tradition. That said, several lines of work are worth briefly noting. For a start, there have been any number of retrospective efforts to uncover and clarify aspects of Freud's theory that relate in interesting ways to other areas of progress in the broader field of psychology. For example, as described above, despite Freud's frequent appeal to observations of psychopathology, the structural model aspired to explain the typical development and ordinary mental states and behavior. Some contemporary research has emphasized the positive contributions of central elements of the structural model that are all too often characterized as necessarily pathological. This includes the constructive, at times creative vicissitudes of melancholia (Radden 2000). There has also been a great deal of interest in Freud's metapsychology as an extension of commonsense psychology. Though usually focused on dreams and unconscious wish-fulfillment (Hopkins 1988; Wollheim 1991), the claim could be made that this applies equally to structural considerations. Freud described the id, ego, and super-ego as roughly equivalent to passion, reason, and conscience. It is not implausible, then, to frame the structural model as an attempt to add system-level depth and detail to these everyday notions, supported by clinical observation.

At the very least, Freud was explicitly interested in the idea that the mind was comprised of working parts. In this way, the structural model represented a kind of functional analysis, although clearly combined with an idiographic focus on individual patients (Manson 2003). Freud's functionalist approach has resonance with the mechanistic assumptions of contemporary cognitive science. This includes growing interest in the neuroscience of psychoanalysis (Johnson and Flores Mosri 2016), with implications for the physical details, or neural correlates,

of the structural model. Freud (1923/1961) had suggested that the ego was based in the frontal cortex, with close connections to perceptual centers, especially the auditory cortex. In line with this, researchers have recently proposed variations on the idea that the ego is associated with cortical structures and activities. For example, the ego has been linked to a network of cortical regions thought to be responsible for self-referential processing, known as the “default mode network” (Carhart-Harris and Friston 2010). Others have also hypothesized that the ego is the work of the cortex, including the sensory cortices, while associating the id with the limbic system and upper brainstem (Solms 2013). Research of this kind may yet add further support to a Freudian approach to mental structure, although it will face the challenge shared across the cognitive sciences of reconciling prevailing functional constructs with mounting evidence of a *highly* networked mind and brain (Anderson 2014).

Conclusion

The structural model represented a coalescence of several of Freud’s key insights about the varied functions of the mind. Based on clinical observation, Freud ultimately held that three core systems were in conflict much of the time, leading to recognizable pathological states such as neurosis and melancholia. In the standard case, the operation of these systems is thought to play an essential role in typical development, beginning with the basic instinctual drives and the id, leading to the gradual construction of the ego by way of identification, and then finally the super-ego following the internalizations of the Oedipal phase. The resulting combination of functions makes up the key workings of the mind. Freud’s model has had a lasting impact within the psychoanalytic tradition, if less of an influence across psychology more generally. It captures the idea that our mental life is comprised of a constant negotiation between competing demands, corresponding to the traditional psychological categories of passion, reason,

and conscience. There are a number of current research programs pursuing empirical parallels between the structural model and recent findings in the cognitive sciences, including neuroscience.

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Psychoanalytic Society, he embraced his holistic, phenomenological, and teleological theory. The life style represents how Adlerians comprehend personality, or more specifically, how people execute or implement their values, characteristics, and traits in relationships. At first, Adler used the phrase “life plan,” then changed to Max Weber's sociological term “life-style” (Griffith and Powers 2007). Adler (1956) explained:

The style of life commands all forms of expression; the whole commands the parts. . . . The foremost task of Individual Psychology is to prove this unity in each individual—in his thinking, feeling, and acting, in his so-called conscious and unconscious, in every expression of his personality. This unity we call the style of life of the individual. (p. 175)

The term life style may also be used when referencing the specific life style assessment utilized to gather and interpret data toward understanding a person. This entry will define life style; describe its development, purpose, maintenance, and components; and review how it is measured and used in clinical practice.

Adler argued that humans are all unique beings that can only be understood by evaluating our nonconscious motivations toward significance, competence, belonging, and connecting to people and the world. The life style is the idiographic, nonconscious plan of how humans can find importance and connections with others. Moreover, it is the “rule of rules” or better yet, “the organization of all rules into a pattern which dominates not only the rules but all coping activity” (Shulman and Mosak 1995, p. 3). The word “rules” confers a cognitive/affective plan. Unlike animals that operate on instincts, humans learn and develop cognitive and emotional systems to cope and navigate so they do not have to constantly rely on trial and error (Shulman and Mosak 1995). Adler outlined that the practitioner can recognize themes or categories that summarize the essence of a person (Shulman and Mosak 1995). Humans create nonconscious rules that fall into the following categories: “. . .the meaning of life, sentiments about human relationships, an evaluation of the self, and what life requires” (Shulman and Mosak 1995, p. 5).

Structure

- ▶ [Evaluative Organization](#)

STS

- ▶ [Superior Temporal Sulcus](#)

Style of Life

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Synonyms

[Early recollections](#); [Family constellation](#); [Guiding idea](#); [Life plan](#); [Life style](#); [Life style assessment](#); [Lifestyle](#); [Personality](#)

Introduction

Alfred Adler created the concept of style of life (life style) to explain the human condition and what motivates people. When Adler (1956) severed his relationship with Freud and left with one-third of the membership of the Vienna

During the life style assessment, Adlerians gather specific data about the client's childhood (i.e., family of origin, schooling, friendships, felt bodily sense, cultural experiences, dreams, and early recollections), which they interpret with the client. The clinician summarizes the client's convictions, interfering ideas/interfering convictions/basic mistakes about the self-concept (what I am, how I feel about myself, my feelings about self and others), the *weltbild*/world view (how to see people/the world), ethical convictions (the right and the wrong for myself and others), and the self-ideal (how I should operate in order to feel significance) (Shulman and Mosak 1995; Powers and Griffith 2012).

Influences of Its Development

The life style develops at the beginning of early childhood. Adler argued that by age five or six the life style was mostly fixed; however, through therapy or life events, the cognitive/affective rules may change. Biological aspects such as temperament, cognitive and physical functioning, and development of the child intersect with the sociocultural environment of the child's family situation. Consider the fictional case of John, a boy smaller than most of his peers who has a difficult temperament but a higher than normal cognitive ability and who grows up in a low SES home. His culture values hard work, education, and "might can make things right"; he also experiences oppression from authority figures due to the family's race. He finds that getting toys not only keeps him calm but other kids in the neighborhood notice him for his toys. He may find belonging and significance by overcompensating for his small stature by being the "biggest" man in the room (i.e., having the most impressive presence or having the most things). Similarly, as an adult he might use his intelligence and family values to get a good education and acquire a lot of money which would serve as a way to show the world that he may be small and from an oppressed group but he strives to be seen as the biggest winner who won't be pushed down.

Purposes of the Life Style

The life style, or "superordinate organizational pattern" (Shulman and Mosak 1995, p. 25), provides humans with a guide, a limit-setter, and felt sense of security and a felt sense of security. It gives a direction, like a compass, on where to head (Carlson, Watts and Maniacci 2008). For example, John (the man who wants to succeed by acquiring the most things) will direct himself to acquiring things – i.e. enter business school instead of becoming a monk vowing poverty. The life style also limits what the range of responses will be – John may have learned you can get more flies with honey but also to become aggressive when he can't get his way – just like how his family valued "might makes things right." Life style gives security and rhythm of developing habits and responses that are reliable and no longer need cortical control (Mosak and Maniacci 1999) – John feels his way of getting things "comes easy, it is natural to me. I just have that special touch where people want to help me."

How Is the Life Style Maintained?

The life style biases what we perceive (biased apperceptions), is self-reinforcing, and arranges life as we expect it should be (Carlson et al. 2008). The bias occurs due to the nonconscious perception of people, objects, and experiences that are filtered through the current cognitive framework guiding the meaning made. People do not notice "the rules" until something unexpected occurs and then they may notice that their biases are not facts. The small man who wants to be big will perceive situations as either helping or preventing him from getting things – not neutral events. The life style is also self-reinforcing; people will seek information out that confirms their biases. The small man *who wants to be big* (recall he does not actually nonconsciously believe he is big) will only seek out people that continue to see him small so that he can prove that he is big – he sees others as always seeing him as less than. His bias is not that he is big – he wants to be big; therefore he strives to prove to

others and nonconsciously to himself that he is big. Adler (1927/1954) spoke that humans are consistently moving and motivated from a felt minus to a felt plus – we are consistently striving or motivated toward improvement. The human condition does not have a state of perfection. Biased apperceptions describe what is perceived while self-reinforcement describes what is sought after (Shulman and Mosak 1995). If John believes authority is oppressive, not only is this what he will perceive, but it's also what he will look for. Life style prompts others into behaving in ways that will confirm its assumptions – it creates experiences to verify expectations. If John cannot find enough evidence that authority is bad, he may nonconsciously provoke (i.e., arrange for) authority figures to be bad.

Early Recollections

Early recollections (ERs) are memories the client recalls unprompted by any stimulus before the age of ten (Mosak and Di Pietro 2006). Adlerian practitioners will ask a client to share one's earliest recollection even if it seems insignificant. Adler found that the past is filtered through current schemas and that the client will remember around ten distinct memories that directly connect to how the client currently perceives the world, self, and others. Current neuroscience has caught up with Adler in showing the perceived past is influenced by present schema (Bridge and Voss 2014).

Assessment of Life Style

Shulman and Mosak's (1995) approach to life style assessment utilizes the Life Style Inventory (LSI) form. This form provides a "skeletal guide to the material to be collected for the life style formulation" (Shulman and Mosak 1995, p. 75). The form contains designated areas for recording information related to the family constellation and early recollections. Family constellation data are collected with a structured interview and include information about one's self, sibling descriptions, sibling groupings, and sibling

ratings. Clinicians gather descriptions about physical development, elementary school information, meaning given to life, gender and sexual information, family's culture, social relationships, parental information, and other particulars about other family members and parental figures. Once the structured interview portion of the LSI is complete, early recollections (ERs) are collected.

Powers and Griffith's Psycho Clarity Process (2012) utilizes a structured interview to acquire information about the individual's childhood experience. Part 1 of this interview involves asking the individual about one's parents, other adults, and milieu. Specifically, the individual is asked what kind of man/woman their father/mother was, what was important to each parent, how he/she is related to each of their children, and how the individual is similar/dissimilar to each parent now. Part 1 also involves asking about the parental relationship, other significant adults, and the family milieu (e.g., SES, religion, culture, etc.). Part 2 inquires about the situation of the client as a child. This includes obtaining descriptions of the individual and each sibling, as well as information on sibling groupings, distinguishing characteristics of each, identifying the sibling the individual was most/least like, acceptance/rejection of family's standards and values, and major events and/or turning points during formative years. The remaining questions in Part 2 focus on the individual (e.g., content of daydreams, body development, sexual development, etc.), as well as one's school and social life (Powers and Griffith 2012). Following this, the clinician collects several early recollections from the client. For the first ER, the individual is prompted to provide the first incident of memory. The client is then asked to provide up to seven additional ERs. After eight ERs are recorded, the individual is asked if there are any other recollections that are important to him or her (Powers and Griffith 2012).

Both of these approaches result in a 2–3 page report created for the client in which the client comments and corrects any misunderstanding of the interpretations (Shulman and Mosak 1995; Powers and Griffith 2012). The report summarizes the individual's subjective sense of growing up,

how he/she navigated the world, and how he/she obtained a sense of belonging and significance. The clinician also summarizes the client's convictions, interfering ideas/interfering convictions/basic mistakes about the self-concept (what I am, how I feel about myself, my feelings about self and others), the weltbild/world view (how to see people/the world), ethical convictions (the right and the wrong for myself and others), and the self-ideal (how I should operate to feel significance) (Shulman and Mosak 1995; Powers and Griffith 2012).

Although each life style and its assessment is idiographic, Adler (1927, 1954) and his scholars (Mosak and Di Pietro 2006) have found common themes across humanity. Adler (1927/1954) identified the ruling type as a typology, while Mosak added many more such as the pleaser, the victim, and the excitement seeker (Mosak and Di Pietro 2006). Wheeler (1989) indicated these typologies formed the base for the scales in an objective measure of life style, The Basic Adlerian Scales for Interpersonal Success - Adult Form (BASIS-A). The BASIS-A consists of 65 Likert items that individuals use to evaluate their perception of childhood memories (Kern, Wheeler and Curlette 1997b). Based on these responses, individuals are scored on five life style personality styles and five subscales designed to create a richer understanding of the life style themes (Kern, Wheeler and Curlette 1997a). According to Kern et al. (1997b), the BASIS-A has been found to have strong one-administration reliability and moderate test-retest reliability (coefficient alpha: .82 to .87; test-retest: .66 to .87). Though the BASIS-A might be appealing to the novice, its creators assert that it was not created to replace the life style interview procedure (Kern et al. 1997a).

Use of Life Style Assessment in Therapy

Life style assessment is one of the primary interventions in Adlerian therapy/counseling (Manaster and Corsini 1982). In treatment, there are four stages/phases/processes that structure Adlerian therapy/counseling (Manaster and Corsini 1982). First, the therapist and client form an

egalitarian relationship. Second, data are collected (i.e., life style assessment, current functioning, symptoms etc.). Third, the client and the therapist/counselor interpret the data to make sense of how the client sees the world, self, and others – i.e., their life style and then what is occurring in life that challenges these belief systems (Manaster and Corsini 1982). Lastly, the reorientation and reeducation phase begins. In order for change to happen, Adlerians believe that first the client needs to know what is going on and why. Through facilitating insight into the appropriate aspect(s) of the client's life style (i.e., the why), he/she can decide if one is ready to make changes (Manaster and Corsini 1982). The practitioner would then work with the client to modify the interfering convictions/mistaken beliefs and the related behavior so that the client can more effectively/pro-socially get what he/she wants.

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Subclinical

- ▶ [Dark Tetrad of Personality, The](#)

Subconscious

- ▶ [Conscious, Preconscious, and Unconscious](#)

Subgoal Scaffolding

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Definition

Subgoal scaffolding theory was proposed as a more nuanced account of the processes of the *behavioral approach system* (BAS), which is one of the major components of the well-known reinforcement sensitivity theory (RST) of personality. Subgoal scaffolding theory delineates the separate, and sometimes opposing, BAS aspects which contain both heterogeneity and complexity of goals and processes. It is especially concerned with the cascade of processes along the temporospatial gradient from *start goal state* (i.e., exploration of a potentially rewarding environment) to the *final goal state* (i.e., attaining the end reward). As operationalized in the

Reinforcement Sensitivity Theory Personality Questionnaire (RST-PQ; Corr and Cooper 2016), this cascade entails reward interest, goal-drive persistence, reward reactivity, and impulsivity, where behavioral caution is more appropriate at the early states and impulsive reacting at the later stages of the cascade.

Introduction

As originally proposed by Corr (2008), subgoal scaffolding theory offers a more nuanced account of the processes of the *behavioral approach system* (BAS), which is responsible for mediating reactions to appetitive stimuli and is related to states associated with hopeful anticipation, optimism, and generally reward sensitivity. The BAS is one of the major components of the well-known reinforcement sensitivity theory (RST) of personality – the other two systems are the *fight-flight-freeze system* (FFFS, responsible for mediating defensive reactions to all aversive stimuli and related to the state of fear) and the *behavioral inhibition system* (BIS, responsible for the detection of goal conflict and for initiating cautious approach behavior and related to the state of anxiety).

Temporospatial Gradient

Subgoal scaffolding theory recognizes that the primary function of all approach behaviors is to move the animal along a temporospatial gradient, from the *start goal state* to the *final goal state* of the desired reward. The cascade of these motivational processes requires a form of problem solving – as such, the theoretical elaboration of subgoal scaffolding was inspired by the cognitive psychology literature, starting with the types of cognitive operations discussed by Miller et al. (1960). These authors reasoned that behavior is guided by plans and goals and (self-)regulated by discrepancy-reducing feedback processes. More specifically, as Anderson (1985, p. 198) stated: “Problem solving is defined as a behavior directed toward achieving a goal [and it] involves decomposing the original goal into subgoals and these into subgoals until subgoals are reached that

can be achieved by direct action.” As with BAS-related goals, as Anderson (p. 198) went on to state: “The problem space consists of physical states or knowledge states that are achieved by the problem solver. The problem solving task involves finding a sequence of operators to transform the initial state into a goal states, in which the goal is achieved.” Subgoal scaffolding couches these cognitive operators into motivationally salient ones.

Subgoal scaffolding theory delineates the separate, and sometimes opposing, aspects of the heterogeneity and complexity of BAS goals and processes, comprising reward interest, goal-drive persistence, reward reactivity, and impulsivity. Individual differences in the traits of these BAS processes, as well as the FFFS and BIS, are measured in questionnaire form by the *Reinforcement Sensitivity Theory Personality Questionnaire* (RST-PQ; Corr and Cooper 2016). The major impetus for the formulation of subgoal scaffolding theory was the recognition that approach behavior is much more complex than commonly assumed and certainly more so than FFFS/BIS-related defensive behavior.

Approach Behavior Heterogeneity

Approach behavior complexity comes from the heterogeneity of both its goals and processes. One useful way to view this is through the lenses of the “arms race” between predator and prey. The “life-dinner principle” (Dawkins and Krebs 1979) states that the evolutionary selection pressure on prey is much stronger than on the predator. If a predator fails to kill its prey, it has lost its dinner, but things are very different if the prey fails to avoid/escape being the predator’s dinner: it has lost its life. For sure, there is some complexity in defensive behavior (e.g., depending on situational constraints, freezing, fleeing, and defensive attack), but not to the same extent as approach behavior.

In even a simple predator-prey situation, the predator needs to use approach behavior to achieve its appetitive aims, and this must entail a high degree of cognitive and behavioral sophistication. (It is relevant to note here that “fight” and “aggression” have been consistently associated

with BAS factors in questionnaire studies, which lends support to the predator nature of BAS processes; see Corr 2016.) This heterogeneity of approach behavior is seen in the form of big cat species stalking their prey: they require a combination of stealthful approach, characterized by behavioral restraint, and then, explosive attack. Certainly, in the case of human beings, approach behavior is no less complex.

Added to this complexity of processes, and once more in contrast to defensive behavior, there is heterogeneity of appetitive goals (e.g., securing food, finding/keeping a sexual mate, financially planning for the future, establishing and maintaining reputation – and this is a very long list) which demand a corresponding heterogeneity of BAS-related strategies. In particular, rash and impulsive behavior would be counterproductive – “. . . unfettered impulse can interfere with the attainment of longer term goals” (Carver 2005, p. 312). But, at the final point of capture of the reward, fast, impulsive action is appropriate and, indeed, necessary, as overcontrol of BAS-driven impulses can lead to lost opportunities.

Everyday Example: Sales

An everyday example illustrates these BAS processes. Consider the salesperson – Barrick et al. (2001) showed that sales performance is related to BAS-related approach behavior – who is required to employ many different approach strategies to achieve their ultimate goal. They need to prepare a sales pitch, deliver the presentation, deal with objections, negotiate, and, finally, “close” the sale. The main point is that there is a cascade of tasks, each with their own (local) objectives, as well as the reinforcement structure to maintain them: receiving reinforcement throughout this process is necessary to maintain motivation – these serve as a form of *temporal bridging*. Failure to navigate successfully through these various stages leads to, among other things, dysfunctional, often impulsive, behavior and, thus, a failure to achieve the supraordinate approach goal, which in this case is making a sale. Both the

sequence of tasks and *appropriate* behaviors during them are important.

More specifically, it can be seen that in the case of (successful) sales behavior, to move along the relevant temporospatial gradient to the final goal state, subgoal scaffolding along the following lines is needed: (a) identifying the final outcome (e.g., closing the sale to achieve commission), (b) planning behavior (e.g., preparing sales pitch), and (c) executing the plan (i.e., performing in the sales situation). Therefore, these *approach* behaviors lead to the final desired reinforcer outcome (e.g., making the sale) by entailing a series of subprocesses, some of which oppose each other. Examples of potentially conflicting subprocesses include pressuring versus listening to the customer. In these processes, the involvement of another RST system is important: the BIS, which detects goal conflicts and would motivate the sales person to identify obstacles to the sale (e.g., points of customer resistance which need to be identified and countered). Some degree of BIS-related risk assessment and rumination would help the sales person to appraise the situation and to avoid prematurely and unsuccessfully trying to close the sale. However, at some point, the sales person must press for the sale and not dither endlessly in an overcautious manner. (The relationship between RST-defined personality types and behavior in the workplace is discussed by Corr et al. 2016.)

As this sales example illustrates, in most approach situations, at the early stages, relatively unstructured exploration is often desirable to identify new opportunities – this is called “reward interest” in the RST-PQ (Corr and Cooper 2016). For the salesperson, this would entail the identification of new sales “leads.” Once the rewarding goal has been identified, then to pursue it effectively needs perseverance which is maintained by local rewards (e.g., feeling good after finding a sales lead or completing the preparation of a sales presentation) – in the RST-PQ, this is called “goal-drive persistence.” The potential danger here is getting stuck on a “local high” and to substitute such *local* reinforcements for the final goal – this is one of the major reasons why even the best laid plans may not achieve their ultimate end. During all of the early stages of building toward obtaining the final goal,

in most human situations, behavioral restraint is required, and impulsive responding must be curbed. However, to be motivated to work toward the final goal state, the animal (including the human being) needs to be sensitive to reward – this is called “reward reactivity” in the RST-PQ: being anhedonic would severely impair approach behavior, as too would being overly hedonic because the local reinforcement may too easily substitute for the end goal state. Then, once the sale is within easy reach, as it were, behavioral restraint and caution can be abandoned, and “impulsive” behavior is now adaptive – this is called “impulsivity” in the RST-PQ. Of course, in the case of humans, this behavior must be appropriate to the context and social convention, and failure to conform to these would, typically, thwart the aim of achieving the final goal state.

Wanting and Liking

A useful way of thinking about the above processes is the distinction between “wanting” and “liking” (Berridge et al. 2009). The BAS is activated by stimuli that signal the possibility of achieving a reward, and it generates approach behavior, along with the accompanying states of desire, eagerness, excitement, and hope – this can be identified with the “wanting” system. In contrast, the “liking” system, which is akin to a “pleasure system” (PS), is engaged at the later stages of approach behavior. The PS responds to obtaining reward with subjectively experienced states of well-being. The PS, itself, can then act as a form of reinforcement: it serves the function of forming in memory a representation of the reward stimulus, and this strengthens the association of the stimulus with future approach opportunities. Indeed, it may serve a subjective “kindling” function, triggering approach behaviors in the absence of immediately obvious rewarding opportunities. It may be useful to think of the wanting and liking systems as overlapping; however, if the liking system achieves influence too early in the temporal sequencing, then the necessary behavioral restraints may be overridden and approach behavior become rash, impulsive, and dysfunctional –

this is what is seen in various forms of externalizing disorders (e.g., substance abuse, aggression, and disinhibitory syndrome).

Conclusion

Something along the lines of subgoal scaffolding would seem essential for the reward-sensitive BAS to engage the necessary motivational, cognitive, emotional, and behavioral processes necessary to take the organism from an initial state of exploratory interest to the final object of reward. In most approach situations, there is a cascade of processes, some of which are opposing (e.g., caution vs. impulsivity), and orchestration of these processes is essential to rise to the challenges of the BAS approach behavior.

Cross-References

- ▶ [BIS/BAS Systems](#)
- ▶ [Liking](#)
- ▶ [Pleasure Principle](#)
- ▶ [Reinforcement Sensitivity Theory](#)

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Subjective and Objective Views on Culture

- ▶ [Emic/Etic Approach](#)

Subjective Closeness

- ▶ [Kin Relationships](#)

Subjective Experiences

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Synonyms

[Experiential state](#)

Definition

Subjective experience is the intact, meaningful, and experiential understanding of both the

emotional and cognitive impact directly consequential to an individual in how they understand and interpret an event, or events, witnessed or otherwise processed.

Introduction

People often behave as if experiences are objective and stay constant across individuals. Despite experiences naturally feeling objective, there seems to be subjectivity to how people experience things. This difference in how people interpret various experiences is what subjective experience is in its simplest form. Due to numerous factors, such as hunger, anxiousness, and even past events, an individual's internalization of an experience can vary greatly from another individual who had the same external experience. The internal experiences can vary greatly. In the academic world, subjective experience is typically examined through one of two primary lenses. It is viewed through the lens of philosophy of mind, and it is viewed through the lens of psychology.

Philosophical Perspective

Philosophy of mind is a subcategory of philosophy in which philosophers study landscape of the mind. Subjective experience has its origins in this subcategory of philosophy. Subjective experience was first coined in a paper titled *What is it Like to be a Bat?* (Nagel 1974). This academic paper is one of the most well attended papers that covers the topic of subjective experience. Nagel was attempting to refute the philosophical stance of reductionism, specifically when talking about the human mind and experiences. It strived to do this by showing that there is more to consciousness than the physical operations of the brain and body which is what reductionists would often simplify the human mind. He did this by utilizing the example of bats and their use of echo location. Something that individual people can understand at a mechanical level but fail to understand is what it is like to experience the echo location

firsthand. Though different from subjective reality, subjective experience certainly plays a notable role in the individual formation of their personal subjective reality. While some philosophers believe in the subjectivity of experience, others might not agree (Buckwalter and Phelan 2013).

Psychological Perspective

In order to better understand the human mind, researchers in the field of psychology have taken the philosophical debate to the laboratory. Philosophers might debate the validity of subjective experiences with well-thought-out arguments, but psychologists test to see if experiences are subjective at any notable level. Michael Weinberg and Sharon Gil's article states "finding accords with the current notion that trauma is not solely an objective occurrence. . ." (Weinberg and Gil 2016). Their findings suggest that experiences, at least in terms of trauma, have a subjective element to them. Much like in philosophy, subjective experience is somewhat the source of some controversy by psychological researchers (Campana and Tallon-Baudry 2013). The primary argument is that it is not possible to accurately measure a subjective thing, including experience, with purely objective measures as many researchers attempt to do.

Conclusion

Subjective experience is something that seems fairly simple and easy to understand at first. However, a simple view of subjective experience is not necessarily an exact one. Given that its academic origins are found in philosophy, it is important to understand at least the more common arguments about the subject to fully understand what subjective experience truly is. Additionally, it is important to look at the science behind it all. While there is research covering the topic, there is some debate on how valid the research is due to the use of nonsubjective measures in measuring something that is subjective.

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Subjective Task Values

- ▶ [Achievement Values](#)

Sublimation (Defense Mechanism)

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Definition

Sublimation is the channeling of unacceptable feelings, desires, and impulses – often of a sexual or aggressive nature – into positive, socially approved activity. This activity is often creative, but it does not have to be. Sublimation is considered one of the most mature defense mechanisms, and Freud believed that only a minority of people were capable of regularly making use of it. Most of the time, people would have to use other, usually less mature defenses. As noted below, recent evidence – both experimental and correlational – has supported the existence of sublimation as a defense mechanism and has identified cultural variation in its prevalence.

Introduction

The basic idea that sexual drives and impulses can be channeled toward other activities has been around for centuries and is found in many places around the world. Freud fleshed out this idea by arguing that the forbidden nature of sexual or aggressive impulses required the unconscious to alter the unacceptable feelings and allow them to be expressed in a socially appropriate and safer fashion. Sublimation was not simply the transfer of sexual or aggressive “energy” into another activity; rather, the actual content of the forbidden feeling would find its expression in an altered, sometimes disguised form.

The basic idea behind sublimation found a receptive audience among scholars, particularly those in the humanities, and among artists themselves. Among psychologists, however, there was little acceptance of the idea outside of the psychodynamic community. Part of this lack of acceptance likely had to do with the idea’s source (Freud, whose approach was viewed as unfalsifiable and hence unscientific). A bigger problem, however, was that there was – until recently – no evidence for sublimation’s existence. Other defense mechanisms – for example, projection, repression, rationalization, and denial – had been documented in a number of studies. But reviewing the evidence in 1988, Baumeister, Dale, and Sommer concluded that there was no scientific evidence to support the existence of sublimation.

Again, sublimation had its champions in the psychodynamic community (e.g., Vaillant 1993). More recently, though, support for sublimation’s existence has also come from laboratory experiments and surveys that use more mainstream psychological paradigms (for an accessible overview, see Cohen et al. 2014).

Recent Developments

The work demonstrating sublimation’s existence drew both upon Freudian theories and the ideas of Max Weber, the famous sociologist who was a contemporary of Freud and would later note the similarities between sublimation and his own

ideas about a Protestant Work Ethic, in which believers would quell doubts and temptations through a focus on hard work (Weber 2005). Picking up these ideas, the recent empirical studies examined sublimation from a cultural psychological perspective. The studies showed that sublimation processes did indeed exist and that there was cultural variation, such that sublimation was more readily found among Protestants as opposed to Catholics and Jews. The reason for the greater prevalence among Protestants has drawn from research showing that (1) Protestants ascribe greater moral significance to thoughts and feelings (as compared to Catholics and Jews) and thus should be more threatened by forbidden impulses (Cohen and Rozin 2001) and (2) Protestants are more likely to give work a sanctified status, believing in work as both a preventative and antidote to human depravity and the impulses and anxieties it produces (Uhlmann and Sanchez-Burks 2014). In contrast, Catholics and Jews are both less likely to believe that thoughts and feelings have a moral valence and are more likely to believe redemption comes either through ritual (e.g., the sacrament of confession) or through interpersonal repair and reconciliation, rather than simply through work. In terms of psychological processes, this should mean that Protestants should be more likely than Catholics and Jews to shuttle forbidden thoughts from the more conscious areas of their mind to the less conscious areas of their mind. In these less conscious areas, thoughts can incubate and be transformed through more loose, associational processes (as opposed to the more logical, rational processes occurring in the more conscious areas of the mind). These transformed thoughts and feelings can then be expressed when they are channeled or displaced into productive activity.

The data supporting these hypotheses in whole or in part came from laboratory experiments, archival studies, and correlational analyses with participant samples including both gifted and more representative samples of the US population. In the experimental studies, participants were brought into the lab and were induced to hold forbidden thoughts. In one case, participants

had to complete a “photo diary” task in which they viewed photos of a family. They were to imagine themselves in the pictures and write about the “memories” as if they were their own. After a few introductory pictures, participants had to write about pictures in which there was a woman. Half of the participants were given starter sentences such as “During high school my sister and I went on vacation with just the two of us. It really helped us grow closer...” For the other half, the same starter sentences were used, but the woman in the pictures was imagined as “my girlfriend” rather than “my sister.” Additionally, the experiment varied whether the woman in the pictures was relatively plain looking or whether she was extremely attractive (actually a swimsuit model who wore bikinis and clothes that accentuated her sexual appeal). In this setup, conflict was supposed to occur when participants had erotic thoughts about the attractive, bikini-clad woman that they were imagining and writing about as their “sister” (the Highly Attractive Sister condition). Given that participants were forced to imagine and write about the woman as their sister, the feelings that would probably have to be suppressed or sublimated were the erotic ones, rather than the fraternal ones.

In one experiment, Protestant participants in the Highly Attractive Sister condition showed a greater motivation to engage in creative activity, as if they had something to “work out” in the process (Hudson and Cohen 2016). In another experiment, participants were actually given a chance to do creative work (make a clay sculpture and write a poem), and again it was Protestant participants in the Highly Attractive Sister condition who produced the best work (Kim et al. 2013; Study 2).

In these studies, it was assumed that participants would be suppressing taboo erotic feelings in the Highly Attractive Sister condition. The crucial role of suppressed emotion was shown in another study where participants were explicitly instructed to (a) recall an anger-provoking stimulus (or a neutral stimulus) and (b) suppress thinking about this stimulus (or not). It was the Protestants who recalled an anger-provoking incident and had to suppress thinking about it who

produced the best creative work. That is, their work was judged more creative than those who either (a) recalled an anger-provoking incident but did not suppress it or (b) recalled and suppressed a neutral stimulus (Kim et al. 2013; Study 3). The pattern thus illustrated both the importance of the emotional content of the material and its suppression for Protestants' creative sublimation. Additional results of these laboratory studies showed that the creative work the Protestants produced was heavily permeated with themes of the forbidden or suppressed, that the Highly Attractive Sister manipulation did indeed produce greater anxiety among the Protestants, and that merely priming Protestants with thoughts about their own depravity could also induce greater creativity. The effects described above did not seem to occur for Catholic and Jewish participants.

Individual Differences in Sublimation

The findings of the lab experiments and the processes it highlighted were also supported by studies examining chronic individual differences. In a student sample, it was shown that Protestants who were chronically more likely to repress or minimize threatening affect as well as displace that threatening affect had more creative interests, activities, and accomplishments (Kim and Cohen *in press*). Catholics did not show this pattern. In fact, there was evidence for the reverse. That is, Catholics who did *not* tamp down or displace troublesome affect were the most creative – consistent with the popular stereotype of the artist as emotional, open to experience, volatile, and unafraid to go to the places of the human heart that are too scary for most people.

The work also extended beyond student samples. In one study examining the Terman sample of gifted individuals, it was found that Protestant participants who had sexual problems involving depravity-related anxieties had more creative accomplishments and held more creative jobs than either their counterparts who reported no sexual problems or who reported sexual problems unrelated to depravity issues (Kim et al. 2013;

Study 1). A more representative sample of the US population showed a similar effect: “conflicted” Protestants – who tried to rule their sex lives according to religious morality but also had taboo desires – worked in the most creative professions. This pattern did not hold for Catholics and Jews. Among the non-Protestants, it was the “libertines” – who had taboo desires and viewed their sexual behavior as unrelated to religious morality – who worked in the most creative jobs (Hudson and Cohen 2016).

Finally, two more studies suggested that the results extend beyond little-c creativity (everyday or professional creativity) to Big-C Creativity (creativity among the eminent). Reanalyzing archival data, it was found that eminent Catholic and Jewish creatives were more likely to show taboo behaviors and be emotionally volatile, as compared to their Protestant counterparts. In a study of sexual behavior, it was found that Catholic eminent were relatively more likely to be libertine in their behavior than their Protestant counterparts, and an independent measure of repressed/conflicted sexuality showed that Protestant eminent were more likely to be repressed/conflicted than their Catholic counterparts were (Kim and Cohen *in press*). There are, of course, methodological issues with studies of eminent populations, but it is somewhat reassuring that the findings among the eminent samples paralleled those among more “normal” (noneminent) samples.

Conclusion

Recent research has come to support the existence of sublimation as a defense mechanism, at least among some parts of the population. More specifically, Protestant participants (who are part of a religion that both moralizes thought and views work as a quasi-sanctified activity) are more likely to show sublimating behavior. Forbidden or suppressed thoughts and feelings are moved to the less conscious areas of the mind, where they are likely transformed by loose, associational thinking processes and then displaced into productive, creative work. Though it may yet be shown that non-Protestants also engage in

sublimation, this work preliminarily suggests that sublimation processes are at least easier to evoke among Protestant participants.

Cross-References

- ▶ [Conscious, Preconscious, and Unconscious](#)
- ▶ [Defense Mechanisms](#)
- ▶ [Drives](#)
- ▶ [Psychoanalysis](#)
- ▶ [Psychodynamic Perspective](#)

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Submissiveness

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Synonyms

[Compliance](#); [Low assertiveness](#); [Low dominance](#); [Social defensive strategies](#)

Definition

Submissiveness refers to both an interpersonal trait and a set of social defensive strategies that indicate the person is relinquishing power, status, autonomy, or control. The function of submissiveness often is to promote social organization by reducing social conflict and promoting reconciliation.

Introduction

From an evolutionary perspective, submissiveness may be understood as a collection of complex social behaviors that mitigate conspecific aggression and promote social cohesion and harmony (Gilbert 2000). In animals, submissiveness consists of strategies and communicative functions that inhibit fighting. When faced with a dominant aggressor, engaging in submissive behaviors, such as lowering one's head or averting one's eyes, can signal appeasement and compliance, thereby reducing the potential threat of violence and deescalating conflict. In humans, these behaviors are associated with the protection of status and are sometimes activated by feelings of inferiority and shame (Gilbert 2000).

Another approach to conceptualizing submissive behaviors is with the Interpersonal Circumplex, a model of social behavior in which behaviors are represented as a function of two orthogonal axes. While several variations of the Interpersonal Circumplex exist, the two axes broadly represent the dimensions of *agency*, which ranges from assured-dominance to unassured-submissiveness and involves strivings for mastery, status, and power, and *communion*, which ranges from cold-quarrelsomeness to warm-agreeableness and involves strivings for intimacy, union, and connection with others (Wiggins 1991). In this approach, submissiveness can be understood as an interpersonal trait that involves behaviors such as not expressing one's own opinions, giving in to others, and avoiding taking a leadership role (Moskowitz 1994).

Integrating these two approaches, submissiveness can be viewed both as an interpersonal trait

and as a set of social defensive strategies, the expression of which is biologically and socially mediated. It is comprised of a variety of different behaviors, some of which are deliberative, voluntary, and adaptive, and some of which are reflexive, involuntary, and often associated with distress (Gilbert 2000).

In both the Interpersonal Circumplex tradition and the evolutionary approach, submissiveness has frequently been conceptualized as the inverse of dominance and/or assertiveness. There exists, however, evidence to suggest that this is an oversimplification and that submissiveness ought to be examined in its own right. Beyond the richness and variety of different behaviors associated with submissiveness and the differential effects these might have on wellbeing and psychopathology, small to moderate correlations have been reported between self-report measures of submissive behaviors and assertive behaviors. A review by Moskowitz (2005) provides further evidence of the partial independence of submissiveness and dominance with a series of studies involving intensive repeated measures in naturalistic settings (IRM-NS), which suggest that dominance and submissiveness may have separate underlying behavioral systems. For example, dominance and submissiveness have different responses to neurochemical changes; the increase in serotonin that occurs after tryptophan supplementation seems to increase dominant behavior but does not decrease submissive behavior.

Gender Differences in Submissiveness

There is a stereotyped belief that men are higher in dominance and lower in submissiveness than women. In past research, men have often been reported to be higher in dominance and assertiveness. At the level of the trait, a review of NEO-PI-R gender differences showed that although gender differences in the predicted direction were found for Five Factor facets such as assertiveness and compliance, these differences were small relative to within-gender variation of scores among individuals (Costa et al. 2001). Moreover, findings suggest that women's submissiveness has

decreased over time. The masculinity scale of the Bem Sex Role Inventory is similar to dominance, and US college women's scores increased significantly between 1974 and 2012 (Donnelly and Twenge 2016). Research that moves beyond the level of the trait to incorporate features of the person's context indicates situations in which women's submissiveness is not greater than men's submissiveness. Research by Moskowitz and colleagues has consistently highlighted the importance of situational factors such as interaction partner and role status above and beyond that of gender. For example, Moskowitz et al. (1994) showed that there were no gender differences in submissiveness at work when men and women held positions of similar status (supervisor, coworker, supervisee).

Types of Submissive Behavior

Submissiveness can be both protective, as in the avoidance or reduction of threat and deescalation of conflict, and affiliative, as in the formation and maintenance of allies (Gilbert 2000). The varieties of submissive behavior seem to involve social comparison, in which individuals judge their standing in relation to that of a potential competitor and decide whether to approach (if the other is less dominant or of lower status) and what type of strategy to employ if it is necessary to submit (if the other is more dominant or of higher status) (Gilbert 2000).

The submissive strategy an individual employs may be consciously chosen, but may be outside awareness and activate a set of behavioral responses that may be difficult for the individual to consciously control (Gilbert 2000). The repertoire of submissive strategies that an individual can draw on is varied and depends both upon the individual's biological propensities and their context, but the behaviors can be broadly identified as escape/withdrawal, passive/withdrawal, and affiliative. Gilbert (2000) describes ten strategies in which, depending on several factors including the status of the confronting individual, the desired outcome, and the possibility of physical escape, an individual might engage. For

example, she might remove herself from the vicinity (escape), remain open to the possibility of switching strategies (ambivalent), attempt to hide (arrested flight), acclimate to her lower status (defeat), signal no threat and seek support from others (infantile), or signal strength and ability that could be shared with others (affiliative).

Links to Psychopathology

Submissive behaviors can be adaptive, particularly when affiliative strategies are employed to strengthen one's bond with others, raise one's status via others' approval, and promote group cohesion through assent and compromise (Gilbert 2000). A great deal of research has been conducted on the benefits of engaging in complementary behavior, such as meeting dominant behavior with submissive behavior (and vice versa; referred to as reciprocity). People tend to engage in behaviors that follow the principle of reciprocity, often without awareness, and this facilitates liking and comfort with one's interaction partner (e.g., Tiedens and Fragale 2003).

Despite the potential interpersonal benefits associated with engaging in submissive behavior, submissiveness is often associated with maladjustment and psychopathology. Submissiveness has been found to be associated with hypertension, unfavorable social comparisons, neuroticism, self-criticism, neediness, shame, embarrassment, social anxiety, and depression (D'Antono et al. 2001; Gilbert 2000; Kopala-Sibley et al. 2013).

Conclusion

Submissiveness can be understood both as an interpersonal trait and as a set of fundamental social behaviors that promote group cohesion and protect the individual against physical threats and threats to status. Though adaptive from an evolutionary standpoint and often vital in securing and maintaining friendships and social support, these social defensive strategies are frequently associated with negative social comparisons and a range of psychopathological conditions.

Cross-References

- ▶ Assertiveness
- ▶ Bem Sex-Role Inventory
- ▶ Interpersonal Circumplex
- ▶ Sex Differences in Personality Traits
- ▶ Situational Factors
- ▶ Social Hierarchies
- ▶ Status

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Subself Theory of Personality, A

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A theory of personality (or a theory of the mind) as made of several subelves. A subself is a coherent system of thoughts, desires, and emotions, organized by a system principle.

Many of the major theorists of personality have proposed that the mind is made up of many subelves. For example, Eric Berne (1961) talked of ego states, Carl Jung (Proff 1973) of complexes, Abraham Maslow (1970) of syndromes, and Andras Angyal (1965) of subsystems. However, despite this agreement on the usefulness of the concept of the subself, very little theoretical discussion has appeared using this concept. The present chapter explores the past use of the concept and proposes postulates and corollaries for a formal subself theory of the mind.

Other scholars interested in this topic have taken a cognitive approach to the multiple self (e.g., Higgins et al. 1985) or focused on scales to measure aspects of self-complexity (e.g., Campbell et al. 1996). The present paper, however, is grounded in the major of theories of personality which are usually ignored by these other approaches.

Multiple Selves in the Major Theories of Personality

Carl Jung

Jung's term for the totality of psychological processes was the psyche. Jung proposed that complexes exist within the psyche, autonomous

partial systems that are organizations of psychic contents. Complexes are subsystems of the whole. (The complexes in the collective unconscious are called archetypes.) In particular, Jung identified several complexes that he felt were of particular use for a discussion of human behavior.

The *ego* consists of our conscious psychic contents and contains percepts, memories, thoughts, desires, and feelings. The *persona* is a subsystem within the ego and is the self that we present to others, the mask we wear in daily intercourse with others. It involves the roles we play in our lives. The *shadow* consists of those psychic contents in the personal (and to a lesser extent the collective) unconscious that is in opposition to the contents of the ego. These contents are less developed and less differentiated than the contents of the ego, but their presence is made apparent to the ego whenever the boundaries between the systems break down and the contents from the shadow intrude into the ego.

In addition, the subsystem in the collective unconscious that is in opposition to the persona subsystem of the ego is called the anima in males and the animus in females. By modern standards, Jung erred here in identifying the core of human behavior in terms of the sexual stereotypes of his day. Jung described males as "masculine" and females as "feminine," in what today would be considered a gender-biased fashion. For example, Jung described the unconscious animus of females as rational and discriminating, showing that Jung believed females to have an irrational and emotional conscious ego. Today, there is no need to accept all of Jung's ideas wholesale. The anima and animus can be conceptualized more appropriately as the subsystems of the shadow that are in opposition to the persona, and their content can vary depending upon the psychic contents of the particular persona.

Eric Berne

Whereas psychoanalytic theory usually uses the terms id, ego, and superego to characterize particular wishes, Eric Berne (1961) used the concept of *ego states*. An ego state is a coherent system of feelings and behavior patterns. Complete ego

I should like to note my indebtedness to my graduate school teachers, Abraham Maslow and George Kelly, and to Andras Angyal of whom Abraham Maslow spoke highly but whom I never met. For a fuller version of the ideas expressed in this chapter, see Lester (2010, 2015).

states can be retained in the memory permanently. The defense mechanisms can operate upon complete ego states, and, for example, ego states can be repressed as a whole. Ego states from earlier years remain preserved in a latent state, with the potential to be resurrected (*recathected* in Berne's terminology).

The parent ego state is a judgmental ego state, but in an imitative way (primarily, of course, by imitating the person's parents). It seeks to enforce borrowed standards. The parent ego state parallels the superego in psychoanalytic theory. The adult ego state is concerned with transforming stimuli into information and then processing that information. It corresponds to the ego in psychoanalytic theory. The child ego state reacts impulsively, using prelogical thinking and poorly differentiated and distorted perception. It corresponds to the id in psychoanalytic theory. However, although this simple correspondence is worth noting, the id, ego, and superego are sets of wishes, while the child, adult, and parent are integrated and coherent ego states. People are always in some ego state, and they shift from one to another (a process which Angyal (1965) called setting and shifting set).

Abraham Maslow

Abraham Maslow (1970), an important influence in the development of humanistic psychology, urged a holistic approach to the study of personality. Behavior, he argued, is as an expression or creation of the whole personality, which in turn is the result of everything that has ever happened to it. Personality is composed of *syndromes*, that is, structured, organized, and integrated complexes of diverse specificities (behavior, thoughts, impulses, perceptions, and so on) that have a common unity. The total personality and the syndromes tend to be well organized, and they resist change, instead seeking to reestablish themselves after forced changes and to change as a whole because of tendencies to seek internal consistency. Behavior is an expression of the whole integrated personality (and thus, an expression of all of the personality syndromes).

Other Proposals for Multiple Selves

Decision Theorists

In discussing the phenomenon of self-deception, some decision theorists have proposed a model of the mind like "the older medieval city, with relatively autonomous neighborhoods, linked by small lanes that change their names half way across their paths, a city that is a very loose confederation of neighborhoods of quite different kinds, each with its distinctive internal organization. . . ." (Rorty 1985, p. 116). Elster (1985) proposed what may be a fitting analogy – the mind as a computer with different programs (software) being loaded and taking control at different times, to which might be added a further analogy for subselves, that is, different routines of the software being called up, for example, the crosstabs routine of SPSSX.

Mair (1977), a psychologist, proposed viewing the mind as a *community of selves*. The expressions "to be of two minds" about an issue and "to do battle with ourselves" suggest that we sometimes talk and act as if we were two people rather than one. Mair suggested that it is useful in psychotherapy to encourage people to conceptualize their minds in this way, with some selves which may be persistent while others are transient, some isolated while others work as a team, some who appear on many occasions while others appear only rarely, and some of which are powerful while others are submissive.

James Ogilvy

Ogilvy (1977), a philosopher, described the mind as a *multiplicity of selves* with a decentralized organization. This multiplicity of selves, a pluralized pantheon of selves, as opposed to a single monotheistic ego, leads to freedom. He saw the least free person as one who has a single, highly predictable personality, a predictability which, in his view, signifies lack of freedom. Each self is a source of differing interpretations of the world, based on differing interpretive schemes. The person is the result of mediation among this collection of relatively autonomous subselves. The goal

is to prevent one of these subelves from taking over control as a single administrator or having them in a hierarchical organization. Ogilvy viewed the subelves as working together, much as in a group, to devise a final product (behavior). Individual differences result from the different evolution of the multiple selves and their differing organizations.

John Rowan

Rowan (1990) surveyed the many theorists who have used the concept of subelves or variants of it. Rowan's preference is for the term *subpersonality*, and he defines it as "a semi-permanent and semiautonomous region of the personality capable of acting as a person" (p. 8). Rowan noted that, on the one hand, it is necessary to reify subpersonalities, but, on the other hand, we must remember that we are not talking about things but about processes that are fluid and in change.

In discussing the origin of subpersonalities, Rowan (1990) suggested that roles could bring out accompanying subpersonalities. Internal conflicts, in which two or more sides argue within us, also can lead to the formation of subpersonalities. Our bodies can participate in these conflicts and act antagonistically to our minds. Thus, the body – and even parts of the body – can also be regarded as subpersonalities. Identification with heroes or heroines can sometimes lead to the person taking on the identity of the hero. Subpersonalities can also derive from the Freudian personal unconscious and the Jungian collective unconscious.

Shapiro and Elliott

Shapiro and Elliott (1976) noted that we often talk to ourselves. Inner dialogues take place as conversations between various subelves, different parts of our self, with different distinct personal characteristics. Shapiro attempted to listen for evidence of conflict in his patients during therapy and then tried to separate the different parts of the person involved in this conflict. Shapiro saw his role as that of coach or facilitator in helping the subelves emerge and training the patient to deal with them in constructive ways. It is critical

that none of the subelves be rejected. Each must be understood and integrated back into the self-organization.

Shapiro tried to identify or develop a mediator for the subelves. He called it a chairman of the board or some term best suited for the particular patient. The goal is to transfer energy and power to this mediator (c.f., the ego in psychoanalysis and the adult ego state in transactional analysis). Subself therapy differs from other forms of therapy such as transactional analysis because it permits the patient to identify and label the subelves, rather than fitting them into a set of subelves predetermined by the theorist.

Shapiro felt that the optimal number of subelves was between four and nine. Too many subelves result in a fragmented or chaotic self and are a form of psychological disturbance. Five kinds of subelves are found in most people: (i) a nurturing parent subself; (ii) an evaluative parent subself; (iii) a central organizing subself; (iv) a good, socialized, adapted child subself; and (v) a natural child subself (a creative, nonconforming, rebellious, spontaneous, and playful subself). Subelves can be introjected subelves, especially those that result from identification with a parent.

These subelves can interact in a drama (or life script), as a family, as an organization or task group, or as a discussion group. It is important for the psychological health of the client for the subelves to get along with one another. An internal civil war or great conflict and tension can lead to psychological disturbance. The group of subelves should be democratic, with a minimal amount of partisanship, favoritism, and moralistic judgments. The energy of the subelves should also be rechanneled away from fighting into constructive problem-solving under the leadership of a chairman. In addition, an observer should be developed to act as a consultant to the group of subelves.

Shapiro identified several different types of psychopathology: (i) too many subelves, leading to inner chaos; (ii) too great an inner conflict, especially where the chairman has little power; and (iii) negative emotions (such as sadness and

depression) are often caused by one subself attacking the child, often without the patient's awareness.

Psychological health involves having an effective chairman, who can observe, coordinate and execute decisions, and promote basic harmony among the subselves. However, Shapiro notes that integrating the subselves is not enough. We have various subselves, but we are not them. We are greater than the sum of the parts. We have to disidentify with our subselves eventually and transcend them. We have to achieve a higher level of awareness – a spiritual harmony that is beyond the psychological harmony.

A Formal Theory of the Plural Self

In the following sections, a series of postulates about subselves will be proposed, together with references to other theorists who have suggested the ideas. In addition, some of the postulates will have accompanying corollaries. First, the question of what is a subself must be answered. Any of the definitions provided by those theorists of personality who utilize such a concept will suffice, but for present purposes:

A subself is defined as a coherent system of thoughts, desires and emotions, organized by a system principle.

Is a Multiple Self Universal?

Postulate 1: Not every individual has a multiple self.

Frick (1993) suggested that only neurotics have multiple selves, not mature and integrated people. He proposed that the level of integration parallels the level of self-awareness, and subselves are associated with low or distorted levels of awareness. Despite Frick's negative view of the concept of subselves, his views lead to the proposition that not everyone may have a mind made up of multiple selves. This raises the question, therefore, of what are the differences between those whose mind can be conceptualized as a multiple self and those whose mind can be conceptualized as a unified self, an issue open to empirical investigation in the future.

Executive Control

Postulate 2: At any point in time, one subself is in control of the mind. It may be said to have executive power.

The notion that one subself is in control of the mind at any point in time was proposed by Eric Berne (1961) in his description of ego states. A good analogy here is a computer in which different programs are in operation at each point in time, such as Excel, SPSS, or Microsoft Word. The subself that has executive power may be called the *executive subself*.

Corollary 2a: When one subself has executive power, the other subselves are said to be suspended.

The concept of suspension of systems of constructs was fully described by George Kelly (1955) in his theory of personal constructs. Berne (1961) called this process *decommissioning*.

Corollary 2b: When one subself has executive power, some of the other subselves may be monitoring what is being processed by the executive subself, but others may not. Empirical investigation of the individual is necessary to determine which subselves are monitoring and which are not.

The extreme of this situation is in multiple personality where the different subselves may have amnesia for what transpires when other subselves have executive power. On the other hand, in descriptions of the "hidden observer" in hypnosis (Hilgard 1986), the belief is that one subself monitors what is going on when other subselves have executive power. It is, therefore, possible that some suspended subselves may monitor what transpires in the executive subself while other subselves may not.

Corollary 2c: Some subselves collaborate in groups or teams, while others may be isolates; some appear in many situations, while others may appear on only rare special occasions; some are domineering while others are submissive.

These dimensions on which subselves may be construed have been suggested by Mair (1977) and others.

Corollary 2d: A subself may have executive power for anywhere from seconds to hours or even longer periods of time.

In the majority of situations, each subself has executive power for a reasonable period, perhaps extending for hours. If subselves are associated with roles, a person may teach a class (in a professorial role) for 2 h and then drive home to a family where he or she switches into a spouse role. On the other hand, when people have internal dialogues within themselves, debating whether to take some action, each subself has executive power for the time it takes to argue one side of the argument.

Corollary 2e: Selfhood is whichever subself has executive power at the time.

The issue of who “I” am has long been debated by psychologists interested in the notion of selfhood. In the present theory, selfhood is perceived by the individual to be whichever subself has executive power at the time.

Corollary 2f: Subselves may form coalitions within the larger group. These coalitions may improve or impair the functioning of the mind.

In groups and in families, coalitions may form between smaller subsets of the whole, such as children versus the parents in family systems. The same process may occur with subselves. This can be good if the coalitions assist a weak subself to assert itself, but bad if a group of subselves forces other subselves into submission.

Corollary 2g: The existence of subselves accounts for the occasional inconsistency in the behavior of individuals.

Mischel (1968) argued that the occasional inconsistency of behavior provided strong support for a contextual or situational theory of human behavior (as opposed to intrapsychic explanations). The existence of subselves weakens Mischel’s arguments by viewing some apparent inconsistencies as the result of different subselves having executive power in the different situations.

Subselves as a Small Group

Postulate 3: The subselves function in a manner similar to a small group of individuals.

Lester (2010) suggested the usefulness of viewing the various subselves in the mind as a small group. In group dynamics research, intragroup conflict is typically seen as counterproductive, expending energy on activities unrelated to the group purpose. For example, in Cattell’s (1948) group syntality theory, the energy expended on establishing and maintaining cohesion and harmony in the group is called *maintenance synergy*, while that used to achieve the goals of the group is called *effective synergy*. The more energy that goes into maintenance, the less available for achieving goals.

Shapiro and Elliott (1976) demonstrated the usefulness in psychotherapy of creating new subselves in clients designed to reduce this intragroup conflict. For example, it is useful to have a subself with the function of “recording secretary” for information storage, another with the function of “mediator,” and sometimes a “chairman of the board” with the power to help resolve conflict between the subselves. In addition, occasional subselves may outlive their usefulness and should be encouraged to “retire” or no longer try to influence the individual’s mind. Lester (2010) noted that small groups with a hierarchical structure are often more productive, but their members are less satisfied. On the other hand, some structure is often useful. The goal is perhaps to have a dominant subself, but not one that is overly dominating.

Research on group dynamics indicates that increasing the size of the group eventually increases the chances that a dominant member will emerge and force conformity from the other group members. Thus, there is a limit to the size of a group for effective functioning. In writing on subselves, Rowan (1990) and Shapiro and Elliott (1976) have suggested that from 4 to 10 subselves is ideal.

Two empirical studies have been reported on this issue. Rowan (1990) asked the clients in a group he led to list their subselves. The mean was 6.5 with a range of 0–18. Lester (2010) asked a sample of undergraduate students to list their subselves and found a mean of 3.5 with a range of

2–6. The number of subelves reported in Lester's study was not associated with age, but the women reported more subelves than did the men (with means of 3.8 vs. 2.5). The number of subelves reported was also associated with neuroticism and extraversion scores, with extraverted neurotics reported the most subelves, with a mean of 4.6. In another study, students who were unable to report subelves scored lower on a test of self-monitoring (Lester 2010).

Research on group dynamics also indicates that egalitarian small groups typically produce more and better solutions to problems than individuals, but that they take longer to reach decision and are more likely to make risky decisions. Perhaps these same principles might apply to people with many subelves. For example, it has been proposed by Andras Angyal (1965), Eric Berne (1961), and Carl Jung (Progoff 1973) that subelves that are excluded from ever assuming control of the mind exert pressure on the dominant (and domineering) subself, often intruding upon (and even invading) the dominant subself, leading to psychological disturbance.

These ideas can be summarized in several corollaries:

Corollary 3a: In some productive organizations of subelves, one subself acts as a leader, analogous to the conductor of an orchestra, coordinating the contributions of the other subelves.

Corollary 3b: Egalitarian groups of subelves typically result in greater satisfaction for the individual.

Corollary 3c: The individual's subelves can reorganize themselves in new ways as they develop.

Corollary 3d: Groups of subelves are best limited to at least four and no more than ten.

Can a Multiple Self be Healthy?

Postulate 4: Having a unified self or a multiple self has no bearing on the individual's psychological health.

Some theorists (such as Gergen 1971) propose that greater *pluralism* is associated with greater psychological well-being, while others (such as Rogers 1959) propose that greater *unity* is associated with greater psychological well-being.

Corollary 4a: It can be healthy for one subself to maintain overall control of the group of subelves while allowing each subself to have executive power from time to time or delegating duties to other subelves. It may be pathological when this "chairman of the board" is impaired in its role, for this may lead to conflict, struggles, and even war between the subelves, rendering the person's mind chaotic.

Conflict between subelves can be avoided by having good communication between them, validating the existence and function of each subself, and by strengthening the "chairman of the board."

Rationality and Plural Subelves

Postulate 5: Multiple selves may lead to more rational decisions than a unified self.

Moldoveanu and Stevenson (2001) explored the implications of a plural (versus a single) self for the economic theory of humans as rational agents. They portrayed the multiple self as an "ever-changing, possibly internally conflicting entity" (p. 295), and they argued that "Split-self – or schizoid approaches recognize the internally incoherent nature of selfhood. . ." (p. 318). The idea of an "economic man" implies a self-interested, rational, and temporally stable individual, and classical economic theory conceptualizes humans as rational decision-makers. The possibility of multiple selves might pose grave problems for classical economic theory.

However, not all conceptions of the multiple self would result in irrational decision-making. Indeed, some models, such as that of Shapiro and Elliott (1976) discussed above, in which subelves such as "recording secretary" and "mediator" exist, might lead to greater rationality in decision-making. We have seen above also that decisions made by a small group may be better decisions than those made by a single individual, and we have noted that a parallel situation may be true for a mind made up of many subelves rather

than a single unified self. Lester (2010) argued, therefore, that a multiple self may fit the concept of economic man better than a unified self.

Future Subselves

Postulate 6: Individuals can seek to create new subselves for the future.

Several scholars have introduced the concept of *possible selves* (Hooker and Kaus 1992). Although their concept appears to be similar to the present focus on subselves, it is not. Hooker and Kaus's concept of possible selves refers to goals and fears for the future. Hooker and Kaus (1992) instruct their subjects to think about "the kinds of experiences that are in store for us and the kinds of people we might possibly become...what we hope we will be like" (p. 395), and they give an example of "one of my own [possible selves] is to win the lottery and become a millionaire" (p. 305).

Despite this difference between their concept and the present theory, their discussion raises the possibilities that people might indeed seek to create new subselves as defined in the present theory. For example, with regard to roles (one possible form of subselves), an individual might plan to have a child and become a parent, thereby creating a new role. When depressed people enter psychotherapy to change their lives, their behavior can be construed as seeking to create a new happy subself for the future. In this last example, the reality is that the depressed subself will not disappear or be destroyed, but rather that it will take over the mind for less and less time in the future, in the same way that Angyal (1965) proposed that the biopositive system principle organizes the mind for longer periods of time as clients progress through therapy, while the bionegative system principle organizes the mind less often.

Do Subselves Come in Pairs?

Postulate 7: The subselves in some individuals are complemented by subselves differing on critical dimensions.

Boulding (1968), in writing about the subsystems of society, noted that each system tends to create the need for an opposing system that balances it and that typically these two

subsystems share similar characteristics. A forceful pro-choice movement for abortion leads to the development of a forceful pro-life antiabortion movement, and vice versa. Racketeering employers and racketeering unions go together.

This might occur in subselves. Carl Jung felt that each complex in the conscious mind was balanced by a complementary complex in the unconscious mind with opposed traits (Proggoff 1973). For example, if the conscious complex is extraverted and prone to use intuition, then the unconscious complex will be introverted and prone to use sensing. Jung saw complexes and sub-complexes balanced in extraversion-introversion, thinking-feeling, and sensing-intuition.

Freeing this idea from the polarity of conscious/unconscious, it can be proposed that any subself will tend to encourage the development of another subself with complementary characteristics. An example here is the description of the "top dog" and "bottom dog" by Perls et al. (1951) in their description of Gestalt therapy – the righteous, nagging, and threatening self versus the self that promises to change if only it could.

Corollary 7a: Some subselves may occur in pairs with complementary attributes, whereas other subselves may occur in pairs with similar attributes. It is an empirical question as to whether individuals have such pairs, the genesis of these pairs, and why some complement each other while others do not.

Corollary 7b: A common polarity in pairs of subselves is the top-dog/bottom-dog dichotomy proposed in Gestalt therapy.

Integration

Postulate 8: The individual eventually tries to integrate the subselves.

If the mind is conceptualized as made up of several subselves, the issue arises as to how the mind might be integrated. It might be that the process of integration (seen by Carl Jung as the task of the second half of life) involves breaking down the boundaries between the subselves and integrating them into a single unified self. Alternatively, it

might be that the different subelves are fully developed and coexist in harmony with one another as Berne (1961) and Shapiro and Elliott (1976) have suggested. Other forms of integration include time sharing (where each subself has control of the mind on some occasions), cooperation, absorption (where one subself absorbs another), fusion or merging, and finally synthesis.

Corollary 8a: The integration of subelves is a task for the second half of life.

Corollary 8b: One form of integration is peaceful and harmonious coexistence, cooperation, and collaboration between the subelves.

Corollary 8c: One form of integration is the fusion or merging of the separate subelves into a single unified self.

Corollary 8d: It is an empirical issue as to which individuals choose each path of integration and what determines this choice.

The Varieties of Subelves

There are many possible schemes for categorizing a person's subelves. There have been many proposals for the types of subelves that might exist. Some theorists have suggested that there is a core self (Kelly 1955) and what has been called a social self, pseudo-self, false self, or, preferably, *façade self* (Laing 1969).

Postulate 9: There are several possibilities for subelves that are common to all individuals.

Corollary 9a: One common set of subelves consists of one or more core selves and one or more *façade* selves.

Corollary 9b: Another common set of subelves is the top-dog/bottom-dog subelves proposed in Corollary 7a.

Corollary 9c: There are probably regressive subelves in most, if not all, individuals which are the subelves that they had at an earlier stage in life.

Corollary 9d: There are probably subelves formed by the introjection of the desires and thoughts of powerful others (in particular, parental figures) and imitation of their personality and behavioral styles.

Corollary 9e: Subelves may be defined in terms of social group membership or personal attributes, and, in some people, there may be mixed types.

Subself Theory and Dissociation

Postulate 10: Some subelves may be in a dissociated state about which the other selves have delusional, minimal, or no knowledge.

There are many phenomena which lend themselves to a subself explanation.

1. At one extreme is multiple personality in which the individual has two or more personalities (often known as *alters*), each of which may have amnesia about events occurring to the individual while in another personality. The different "personalities" of the person with multiple personality may be conceptualized as "subelves."
2. In possession, a person – sometimes in a trance state – is "possessed" by a deceased spirit. This spirit may be exorcized by a shaman, and the individual may or may not remember the possession experience (Lester 2010). It is possible that the "spirit" which apparently possesses the individual is one of his or her subelves which have taken over control of the mind (In an analogous manner, the "it" that comes over us and makes us behave in socially unacceptable ways was construed by Freud as originating in the individual's own id and may be construed as a subself).
3. Mediums who communicate with the dead often have a spirit guide (also known as a control) who passes on messages from deceased individuals intended for those who have come to the medium for such messages (Lester 2010). Occasional mediums are "possessed" by the deceased spirit and speak as if they "are" the deceased person. Such controls may be subelves of the mediums which they do not recognize as such.

4. People sometimes claim to remember previous lives as another person which is seen as evidence for reincarnation (Lester 2010). These memories may occur spontaneously or under hypnosis. It is difficult to distinguish cases of reincarnation from cases of possession. However, both may be situations where subselves take over the control of the mind temporarily.
5. Schizophrenics often have auditory hallucinations in which they hear voices. Typically, the schizophrenics attribute these voices to some external agency, but the voices most likely originate in their own minds and may be conceptualized as coming from other subselves.

It is clear that the phenomena mentioned in points (1) through (5) fall on a continuum of *distancing* or *dissociation*. In multiple personality, there is amnesia for the events occurring in other personalities, and amnesia is often present in possession experiences. In memories of past lives and the spirit controls of mediums, there is no amnesia, but rather the subject locates the experience as coming from an external source (e.g., a previous life or the spirit world). The same is true for the auditory hallucinations of individuals with schizophrenia which the patient typically views as coming from “other realms.”

In contrast, healthy people usually experience their different subselves consciously and acknowledge them as part of the self. They may label these subselves as roles (e.g., employee, parent, spouse), by mood (e.g., the depressed self, the happy self), or in some idiosyncratic way. When they “talk to themselves,” they recognize that both “voices” are their own. When they have conflicting desires, they recognize that the opposed desires are all their own.

Interestingly, those who believe in the phenomena described here often use the other phenomena to explain them. For example, multiple personality and reincarnation may be explained as an example of possession. The auditory hallucinations of individuals with schizophrenia may be viewed as communications from deceased individuals dwelling in the spirit world. However, the model of the mind as composed of subselves, with

varying amounts of dissociation, remains the most parsimonious explanation of all of these phenomena. It explains the phenomena without recourse to explanations (such as reincarnation or a spirit world) which many scientists reject as unproven, and it does so using a holistic conceptualization of the human mind which has a long history in psychological thought.

Corollary 10a: The concept of dissociated subselves can explain such phenomena as multiple personality, possession, mediumship, reincarnation, and auditory hallucinations.

Psychological Disturbance

The theory of subselves proposed here leads to many types of psychological disturbance.

Postulate 11: There are many forms of psychological disturbance which can arise from the conceptualization of the mind as consisting of many subselves.

Corollary 11a: Psychological disturbance can arise from symptoms of pressure, intrusion, and invasion between subselves.

This description of psychological disturbance was proposed most cogently by Angyal (1965). In symptoms of *pressure*, one subself tries to assume executive power while another subself is in control. This can result in mild symptoms such as insomnia, heightened anxiety, restlessness, and fatigue. In symptoms of *intrusion* (called *contamination* by Berne), while one subself has executive power, other subselves affect occasional behaviors. The tone of voice or other nonverbal qualities of the behavior may be controlled by a suspended subself. Slips of the tongue, obsessive thoughts, hallucinations, and delusions are other manifestations of symptoms of intrusion. Jung considered neurosis to be the result of intrusions. In symptoms of *invasion*, subselves invade one another, and the behavior of the individual becomes chaotic as different behaviors are controlled by different subselves. It is a state of being at war with oneself, and Jung saw the psychoses as the manifestation of symptoms of invasion.

Corollary 11b: Psychological disturbance can arise when one subself has executive power exclusively.

When one subself governs exclusively, the other subselves are deprived permanently of executive power, and this creates an imbalance among the subselves. The ideal situation is for each subself to be recognized, accepted, and permitted expression and to have executive power from time to time.

Corollary 11c: Psychological disturbance can arise when the individual has difficulty setting and shifting set (changing which subself has executive power) appropriately in a situation.

A person may show a stubborn resistance to shifting subselves when a shift is warranted, as when the role in which the individual is operating changes (e.g., from worker to parent), or when the individual shifts sets opportunistically and inappropriately (e.g., when a psychotherapist commits a boundary violation and becomes sexually intimate with a client).

Corollary 11d: Psychological disturbance can arise when the content of the subselves is pathological.

There may be psychopathology because the content of one or more subselves is pathological. A serial murderer may, for example, have several subselves with firm boundaries (and so no symptoms of intrusion or invasion) and be able to set and shift set appropriately and yet may enjoy torturing and killing others. Berne (1961) gave the example of a happy concentration camp guard as illustrating this type of psychopathology. Angyal (1965) in his theory of personality proposed a bionegative system principle (consisting of the pattern of vicarious living and the pattern of noncommitment) which also is an example of content psychopathology.

Corollary 11e: The healthiest individuals may have one subself that is in charge of the set of subselves.

Frick (1993) suggested that a superordinate subself is required for healthy functioning – as some have phrased it, someone to conduct the

orchestra. There may also be a core subself than can and should assume leadership.

Corollary 11f: Some subselves may cease to be useful as the individual matures and may need to become less influential in determining the individual's life.

Corollary 11g: Subselves that may be unhelpful for some tasks and impair performance and development may be useful in other situations.

Excellent examples of this can be found in Eric Berne's ego states in which each ego state (child, adult, and parent) is appropriate in some situations.

Corollary 11h: The possibility of attributing negatively valued aspects (thoughts, desires, emotions, or behaviors) of oneself to one or more subselves may enable the individual to maintain high self-esteem since the negative aspects of one subself do not color the other subselves.

Developmental Considerations

There is a long tradition in psychology of viewing development as a progression from a state of relative undifferentiation to a state of greater differentiation and hierarchical integration, leading eventually, in the second half of life, to integration. There are two major issues here. How are subselves formed and what determines whether they become part of the plural self?

Postulate 12: Subselves may be formed as a result of early experiences.

Many subselves are formed early in life, remain with us throughout life, become more or less salient over time, but also change. Subselves can be created by experience. Relevant formative processes include the processes described by psychoanalysis (with its emphasis on early experiences, especially traumatic experiences), the impact that the conditions of worth have on the development of a child's façade self as described by Carl Rogers and Andras Angyal ("the pattern

of vicarious living”), and parents who are inconsistent as described by Andras Angyal (“the pattern of noncommitment”).

Postulate 13: Subselves may be formed by the encountering of possible subselves exemplified by other people.

Kelly (1955) in his theory of personal constructs introduced the concept of threat – the possibility of an imminent change in the individual’s core constructs. Encountering someone who presents an alternative lifestyle can be a threat – “I should behave as that person does.” In some situations, other people act toward the individual as if he or she should behave in a certain way – and it is tempting to adopt that subself in order to cope with the situation.

Postulate 14: Subselves are selected to become more or less permanent members of the plural self depending on their usefulness in helping the individual succeed.

This success may be healthy (a humanistic perspective) or may help the individual persist in maladaptive behaviors (as in the view of Gestalt therapy).

Postulate 15: Individuals form fewer possible selves as they age. Aging narrows the possibilities for the individual as he or she moves toward completing their specific system principle.

Angyal saw individuals as eventually having too little time left in their lives for changing their specific system principle, and, as a consequence, they have less freedom of choice.

Subselves and Psychotherapy

Postulate 16: The concept of subselves is useful for psychotherapy and counseling.

The hypothetical existence of subselves has a long history or use in psychotherapy (e.g., Shapiro and Elliott 1976). Transactional analysis (Berne 1961) is based on the existence of ego states. Transactional analysis begins with a structural analysis in which the clients are introduced to the concept of ego states and helped identify which ego state they are in at any time. Intrusions (called

contamination in transactional analysis) are identified and eliminated. Psychotherapy then moves to a transactional analysis, in which transactions between individuals are examined for such issues as whether they are complementary or crossed and overt or covert (as in “games”).

Corollary 16a: One useful tactic in psychotherapy is to have the client identify and provide names for their subselves.

Naming the subselves helps clients recognize, explore, describe, discuss, and understand these aspects of themselves.

Corollary 16b: Some subselves are more useful in the psychotherapeutic process than others.

The usefulness of particular subselves at particular stages of the psychotherapeutic process is illustrated by crisis intervention. For example, in dealing with a client in crisis, it is helpful to get the client’s adult ego state (using transactional analysis terminology) in control. If the crisis counselor speaks from a parent ego state, this will encourage the client’s child ego state to take over as executive and increase the client’s feelings of helplessness. Asking nonthreatening questions designed to elicit information facilitates the client’s Adult ego state assuming executive power and calming the client down.

Corollary 16c: It is important in psychotherapy to know the relationships among a client’s network of subselves, that is, the alliances and coalitions that exist and how they change from time to time and situation to situations.

Corollary 16d: Some subselves may become enmeshed, and the psychotherapist must help the client create sufficiently impermeable boundaries. Alternatively, some subselves may become disengaged, and the task then is to recognize them and encourage them to express themselves.

Corollaries 16c and 16d come from ideas common in family therapy, in particular, families in which each family member is far too involved in the personal concerns of the other family

members and families in which coalitions form as the members take sides in family disputes.

Criticisms

Several writers have noted that the criteria for identifying a subself must be specified. What are the attributes and parameters of a subself? Katzko (2003) criticized those writing about subselves (or some other comparable term) for not specifying what the term means. He noted that the term can have a dictionary definition, which he saw as the connotative usage, “the relation between a term and a concept” (p. 85). Katzko noted that the term can also refer to some phenomenon, what he saw as the denotative usage, and, in this case, it “points” to a real-world object.

Katzko further criticized the terminology. He dislikes describing the “self” as made up of “sub-selves,” which he contrasts with “an atom is made up of subatoms” (p. 94), an idea that physicists would abhor. Several theorists have avoided this by using terms such as “mind” or “psyche” rather than “self” and by using terms such as ego states or complexes instead of subselves.

Finally, Katzko stressed the importance of distinguishing between a multiplicity of subselves and multiple aspects of one single self. A multiplicity of subselves “implies an aggregate of several independent entities, all of which are members of a single class” (p. 95). Eric Berne’s (1961) proposal of three ego states or Lester’s (2010) proposal of treating the subselves as analogous to several people working together in a group setting (neither example cited by Katzko) clearly fits into the multiplicity of subselves concept.

Discussion

The notion that individuals have a unified, whole self may be an illusion which is particularly strong in the Western world. This illusion of wholeness may be created by defense mechanisms, the psychological processes of condensation, displacement, transference, and identification, which “create an illusory sense of wholeness and personal continuity out of what are actually

inconsistent self-experiences” (Ewing 1990, p. 266). However, cultural anthropologists, making what psychologists would call clinical observations of indigenous peoples in their natural settings, are aware of the varieties of subselves that appear in different contexts or social settings and do not consider this to be an illusion.

Baumeister (1998) has stated: “The multiplicity of selfhood is a metaphor. The unity of selfhood is a defining fact” (p. 682). Since Baumeister presented no facts to back up his assertion, it could just as appropriately be asserted that the unity of the self is a metaphor while the multiplicity of the self is a fact. Postulate 1 of the present theory has granted that some people have a single self while others have a multiple self. It is not crucial, but it is of some importance, that psychological theories match people’s experience. Although the present author is convinced of his continued existence as a single individual, he is also quite sure that he has different, subjectively experienced subselves.

There are many sources from which additional propositions and corollaries about subselves might be identified. Role theory provides such concepts as a role set (a collection of roles), formal and informal roles (such as “professor” and “scapegoat” in the family system), role conflict and role strain, role distance in which the individual resists the role and purposely gives inauthentic performances, and the degree to which individuals see themselves as defined primarily through one of the roles they play. It may be important, however, to clarify the distinctions between (or relationships among) the concepts of subselves, identities, and roles. Other sources of propositions and corollaries may come from analogies with group dynamics and family therapy. It is hoped that this formal presentation of a subself theory of the mind will stimulate analysis and development of the theory.

Cross-References

- ▶ [Ideal self](#)
- ▶ [Persona \(Jung\)](#)
- ▶ [Personal Construct Theory](#)

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Substitute Formation

- ▶ [Reaction Formation \(Defense Mechanism\)](#)
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Suedfeld, Peter

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Peter Suedfeld is Dean Emeritus of Graduate Studies and Professor Emeritus of Psychology at The University of British Columbia, Vancouver, B.C., Canada. His research interests span personality, social, cognitive, environmental, and political psychology, with emphasis on human reactions and resilience during and after challenging, dangerous, unusual, and traumatic events.

Early Life and Educational Background

Suedfeld was born in Budapest, Hungary, on August 30, 1935. He survived the Holocaust as a hidden child with false papers. His parents were imprisoned in different death camps, from which his mother never returned. At the end of 1945, his father and he moved to Vienna, where they spent 3 years waiting for a visa to enter the USA. They lived in New York City, where Suedfeld attended Stuyvesant High School and Queens College of the City University of New York. While at the

university, he enrolled in ROTC in preparation for a military career. He interrupted his education to enlist in the US Infantry and served in Ft. Hood, TX, and Clark Air Base, Philippines.

Upon returning to Queens College, he reenrolled in ROTC, but a required course in Experimental Psychology introduced him to the excitement of research and changed his career plans. As originally planned, upon obtaining his BA with honors, he also accepted his commission as a Second Lieutenant in the Air Force Reserve. However, he then entered the psychology graduate program at Princeton University and received his PhD in 1963. His doctoral research was directed by Jack A. Vernon and Harold M. Schroder and explored the interaction among personality (cognitive style), environmental conditions (reduced stimulus input), and attitude change.

Professional Career

After a postdoctoral year at Princeton and a 1-year visiting appointment at the University of Illinois, Suedfeld moved to University College, Rutgers University, where between 1965 and 1971 he rose from Assistant Professor to Professor and Department Chairman. In 1972, Suedfeld accepted the Headship of the Department of Psychology at the University of British Columbia. During his term as Head, the department almost doubled the number of faculty members, won approval for a BSc program and an Environmental Psychology area, had its graduate program in clinical psychology accredited by both the American and Canadian Psychological Associations, became one of the most popular undergraduate majors in the university and one of the two highest-ranked psychology departments in Canada, and moved from five scattered locations into a new building that housed all of its offices and laboratories.

In 1984, Suedfeld was appointed Dean of the Faculty of Graduate Studies and terminated his administrative position in 1990. He became Dean and Professor, Emeritus, in 2001. Throughout his administrative career, and since official retirement, he has continued an active program of

research, student supervision, and activity in scientific and related organizations.

Suedfeld's over 300 publications, some of them in Hungarian, German, Spanish, and Japanese, include eight books, many chapters in handbooks and edited volumes, and articles in mainstream personality and social psychology journals such as the *Journal of Personality* and the *Journal of Personality and Social Psychology*, as well as specialty journals such as *Environment and Behavior* (of which he is a long-time Associate Editor), *Air, Space, and Environmental Medicine*, *The Polar Record*, and *Political Psychology*.

Suedfeld has represented Canada on international academic and scientific bodies and served as chair or member of many Canadian, American, and international committees. For example, he has chaired the Canadian Antarctic Research Program, the Canadian Space Agency's Life Sciences Advisory Committee, and the NASA/Johnson Space Center's Standing Review Panel for Behavioral Health and Performance. In these roles, he has encouraged agencies and researchers to recognize, investigate, and enhance positive factors in the design of polar and space stations, to encourage studies of the psychology of isolated, confined environments, and to improve post-deployment psychological support for the personnel involved. This positive psychology approach to space and polar work has gained considerable recognition by NASA, CSA, and other agencies.

Suedfeld has given invited presentations at conferences, organizational meetings, and universities on every continent, including Antarctica. He was elected a Fellow of the Royal Society (the National Academies) of Canada and the Royal Canadian Geographical Society (the only psychologist to be recognized in this way), the Academy of Behavioral Medicine Research and the International Academy of Astronautics, as well as many Canadian and American scientific societies and the Explorers Club. He has received the highest awards for scientific contributions from the International Society of Political Psychology (the Harold Lasswell Award) and the Canadian Psychological Association (the Donald O. Hebb

Award). He later served as president of the Canadian Psychological Association and was further honored with its award for distinguished contributions to the international advancement of psychology and its Gold Medal for lifetime distinguished and enduring contributions to Canadian psychology. He has also received the Antarctica Service Medal of the US National Science Foundation and US Navy, Queen Elizabeth II's Diamond Jubilee Medal, and the Zachor Award of the Canadian Parliament, which recognizes contributions of Holocaust survivors to Canadian society.

Research Interests

Suedfeld is best known for having documented personality factors relevant to the resilience, recovery, and indomitability (referred to in the title of one of his keynote publications, Suedfeld 1997) of human beings in the face of major challenges, traumas, and dangers. Suedfeld is also known for his contributions to a variety of research areas and for using many different research methods. In fact, he has been labeled "Canada's most versatile psychologist" by psychology historian John B. Connors (2014). His most prolific research areas are summarized below.

Integrative Complexity and Other Content Analyses

One major focus of Suedfeld's theory and research has been the development of a construct called integrative complexity (Suedfeld et al. 1992). Integrative complexity is the "state" complement of "trait" conceptual complexity (Schroder et al. 1967). Unlike conceptual complexity, it can be measured from almost any meaningful running text rather than from standard psychometric instruments. This makes a wide variety of sources, including archival ones from many eras, cultures, and languages, available to researchers. The method is scientifically rigorous, employing detailed coding manuals, coders

trained to established criteria, randomization and anonymization of materials to be scored, the assessment of intercoder reliability, and analysis by standard statistical tests.

High integrative complexity is characterized by the recognition of different dimensions and perspectives on a topic and of relationships among these. It is associated with flexible, open-minded thinking, low need for closure, wide information search, and the use of many sources and kinds of information in planning. Its drawbacks are slow decision-making, indecisiveness, and susceptibility to becoming misled by trivial or irrelevant information.

Suedfeld's "cognitive manager" model dissects from views that label most human decision-making as flawed because of the use of cognitive shortcuts and limited information processing. His research has investigated individual differences in susceptibility to disruptive stress (see below) and found – for example – that outstanding leaders in either political or military positions are less likely to exhibit stress-related drops in complexity than less eminent counterparts. The model proposes that most decision-makers assess the importance of any problem they are facing in terms of their importance and urgency within the total array of current problems and bring to bear the level of cognitive resources that seem appropriate for solving it. If the problem is low in importance or urgency, it evokes low complexity and maximizes the use of shortcuts and limited information use in the decision process. As importance and urgency rise, so does the level of complexity brought to bear on the issue. However, if an important problem is resistant to a solution despite the focusing of complex cognitive resources, the outcome may be "disruptive stress": a decrease in integrative complexity as the decision-maker's resources become exhausted or refocused. This can be the precursor to a drastic, game-changing decision, such as to end negotiations and choose war (Suedfeld 1992; Suedfeld et al. 2006).

The integrative complexity variable has been used in research and theory by many researchers in social and political psychology, political science, economics, and international relations as

well as by practitioners in policy analysis, intelligence, and defense. Refinements of the construct and the scoring system have appeared (Tetlock 2014). The construct and methodology of integrative complexity have been adopted in many areas, one of the most active of which has been political psychology.

One important contribution has been the series of findings by Suedfeld's research team that reliable changes in the integrative complexity of national leaders foreshadow whether an international or domestic political dispute will end in negotiated compromise or in violence. Studies by Suedfeld's research team have also shown integrative complexity to be related to individual differences in cognitive resistance to personal, professional, and national stress, long-term career success among political and revolutionary leaders, the approach of death, personality differences between adherents of different political parties and ideologies, assessments of political leaders at a distance, the impact of being an incumbent versus a challenger or the member of a majority or minority, survival of extreme trauma, and many other experiential variables (Suedfeld 2010a).

Building upon his development of the scoring system for integrative complexity, Suedfeld has created archival scoring systems for a number of other variables, usually deriving them from established psychometric instruments. Studies using quantitative content analysis have focused on the motive and value profiles of selected individuals, strategies for coping with problems and stressors, the resolution of psychosocial crises, and psychological distance. The topics of his archival investigations have included such issues as changes in personality immediately after surviving trauma and 40 years afterward, the difference between overtly expressed positive feelings toward another person and the affect revealed by more subtle measures, the effect of spending months as the only person from one's culture and nation within a group of people all of whom share another background, and personality characteristics related to adaptability in a strange and challenging environment.

Experimental Reduction in Stimulation Level

Another major area of research has been the experimental Restricted Environmental Stimulation Technique or Therapy (REST, formerly known as sensory deprivation; Suedfeld 1980). REST has two commonly used versions, lying on a bed in a dark, silent chamber for up to 24 h and floating in a dark, silent tank with a skin-temperature solution of Epsom salts for 1–2 h. Questioning reports that "sensory deprivation" is aversive, impairs cognitive processing and emotional stability, and acts as a "model psychosis," Suedfeld's early experiments showed that such effects were due to procedural artifacts. After eliminating these, decades of further research have established that most people find both chamber and flotation REST to be pleasant, relaxing, and useful in a variety of learning and therapeutic situations. The latter have included reducing relapse following smoking cessation, reductions in stress-related symptoms such as elevated blood pressure, primary insomnia, and tension headaches, improved performance in different sports, and easy entry into a deep meditation-like state (Suedfeld and Borrie 1999). This research has contributed to the worldwide popularity of flotation tank facilities.

Isolated, Confined Environments

Starting with his correction of the sensory deprivation literature, Suedfeld has gone on to test professional and public assumptions of universally negative effects of other unusual, challenging, dangerous, or traumatic situations (Suedfeld 1997, 2002). He has conducted field research in both polar regions, laboratory experiments, interview and questionnaire studies, and archival content analyses. He organized and directed the multinational and transpolar Polar Psychology Project and the High Arctic Psychology Research Station on Ellef Ringnes Island near the Magnetic North Pole. The subjects in these studies have included workers in Arctic and Antarctic stations,

astronauts and cosmonauts, and convicts in solitary confinement.

In each case, he has found convincing evidence of resilience and recovery. Work in extreme environments such as the polar areas and spacecraft has positive aspects that have been largely ignored in the psychological literature and by the space and other agencies involved. These aspects include environmental appreciation and bonding, as well as affirmative changes in personal values and attributes such as self-esteem, courage, and coping ability (Johnson and Suedfeld 1996; Suedfeld 2010b). Nevertheless, he has argued that efforts should be made to optimize the environment for comfort, stimulation, and human well-being, even at the expense of engineering efficiency and minimum cost. Most recently, Suedfeld has begun to study the similarities and differences between the environmental constraints experienced by astronauts and by residents of group living facilities for the aged.

Survivors of Genocide

Suedfeld's studies of Holocaust survivor memoirs, testimonies, and interviews have contributed to the growing recognition of the strength and recovery evidenced by a high proportion of survivors. The pessimistic predictions of early researchers and therapists that survivors would never be able to overcome the effects of the horrors they had experienced – suffering from mental illness, unable to work productively, to build close personal relationships, or to enjoy life – were generally mistaken. In fact, although survivors remember and mourn their losses, especially the murder of loved relatives and friends, over time they have overcome or learned to live with their stress symptoms, and have been successful in their social and family life as well as occupational or educational achievements. As they reach old age, they look back upon life with appreciation and contentment. Suedfeld's research team has also analyzed archives from the Rwandan and Armenian genocides. Although the database is much smaller than for the Holocaust survivor studies, the results are comparable.

A recently growing literature has generally agreed that resilience and even posttraumatic growth are much more common among survivors than the traditional literature had shown. Suedfeld and other authors have attributed this to three possible factors. One is that the early researchers and therapists were confronted with people who had experienced unprecedented horror. There was no existing scientific literature, and the events were so terrible as to imply no possibility for recovery. In fact, the professionals may have suffered secondary traumatization. Second, most of the publications were by psychiatrists and clinical psychologists, who by definition saw a self-selected population of the most severely affected survivors. It was not until the focus on community, rather than clinical, samples by Suedfeld and other researchers that a broader database was created. Third, the elapsed time between the event and the more recent studies may have allowed many of the symptoms of PTSD and other effects of the traumatic experience to be ameliorated. With regard to that issue, a recent publication and continuing analyses by Suedfeld's group have shown overall similarities between interviews held in 1946 and those recorded in the 1970s–1980s.

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Suggestion

► Hypnosis

Suicidal Behavior

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Definitions

Suicidal Behavior An individual tendency of ending his or her own life or thoughts of committing suicide, self-inflicted injury as well as intentional self-harm.

Suicidal Ideation/Thought The contemplation of ending one's own life. This ideation/thought may develop among those individuals who feel completely hopelessness or believe that they are unable to cope with their life situation and involves the formulation of a specific method through which one intends to die.

Suicidal Attempts A nonfatal, self-directed, and an engagement in potentially self-injurious behavior in which there is at least some intentional to end one's own life.

A self-initiated sequence of behaviors by an individual who at the time of initiation, expected that the set of actions would lead

to him or her own death. The time of initiation is a time when behavior took place that involved applying the methods (Diagnostic and Statistical Manual of Mental Disorder; DSM-5).

Introduction

The pathway of suicide is complicated due to multiple risk factors of biological, psychological, social, and culture combined. The end product of suicidal behavior is suicide. The diathesis-stress model (O'Connor 2011; Baumeister 1990) and the cognitive model of suicidal behavior (Wenzel and Beck 2008) are the most common theories used to explain suicidal behavior. Later, three new generation models of suicide were developed to explain suicidal behavior processes. The interpersonal theory of suicide was developed by Van Orden et al. (2010) and proposed that suicide results from the combination of perception of burdening others, social isolation, and the ability to carry out self-harm. This theory explains that suicidal behavior can be generated by combinations of three risk factors. These are (1) the individual's experiences of loneliness/isolation, (2) the individual's perception of being a burden of others, and (3) the individual habits to endanger herself/himself by prior non-suicidal self-injury, suicidal behavior, or other risk behaviors. O'Connor (2011) developed the integrated motivational-volitional (IMV) model of suicidal behavior. This model consists of biopsychosocial factors to explain suicidal behavior. In this model, the suicidal behavior can be explained in three phases. The first phase is pre-motivational where background factors, trigger factors, and life events will be leading to motivational phase (suicidal ideation/intention formation) and later all these factors govern the transition from suicidal ideation to suicide attempts/death by suicide (volitional phase). The most important component in IMV is

the role of defeating and entrapment are the primary drivers of suicidal ideation, and that acquired capability along with other factors explain the propensity to act on suicidal thoughts. O'Connor provides key premises of the IMV model of suicidal behavior as follows:

- Vulnerability factors combined with stressful life events contribute to the development of suicidal ideation.
- The presence of pre-motivational vulnerability factors increases the sensitivity to signals of defeat.
- Defeat/humiliation and entrapment are the main key to provoking the emergence of suicidal ideation.
- Entrapment is the bridge between defeat and suicidal ideation.
- Volitional-phase factors lead the transition from ideation/intent to suicidal behavior.
- Individuals with a suicide attempt or self-harm history will exhibit higher levels of motivational and volitional-phase variables than those without a history.
- Distress is higher in those who engage in repeated suicidal behavior and over time, and intention is translated into behavior with increasing rapidity.

The three steps of suicide describe that suicidal behavior can be explained in terms of ideation-to-action of suicide (Klonsky and May 2015). The development of suicidal behavior begins with pain experiences (physical, psychological, social) and hopelessness. Pain alone is not sufficient enough to produce suicidal ideation, but pain and hopelessness combined will bring about to suicidal ideation. The second step of suicidal behavior is strong versus moderation of suicidal ideation that can be explained in terms of connectedness. The connectedness is served as a protective factor of suicidal ideation among those with a high risk of pain and hopelessness. Finally, suicidal behavior is based on the capability of the individual to make a suicide attempt which involves dispositional (relevant variables), acquired (habituation), and practical (knowledge, access of lethal means).

Classification of Suicidal Behavior

In *Diagnostic and Statistical Manual of Mental Disorder* (DSM-5), the classification of suicidal behavior must meet the criteria diagnosis of mental disorder. The individual must present symptoms or a visible sign of illness. In some cases, reports showed that the presence of a psychiatric condition is the most recognized risk factor for suicidal behavior. Major depression and borderline personality disorders can be considered as the main trigger to suicidal behavior. Schizophrenia, alcohol use disorder, and post-traumatic stress disorder are not the center of suicidal behavior, yet all these disorders are associated with suicidal attempts (Oquendo and Baca-Garcia 2014). There are also unrelated risk factors that do not meet the diagnostic criteria, but these factors can be considered as a signal for suicidal behavior such as problem-solving difficulties, cognitive rigidity, agitation, aggression, impulsivity, and narcissistic (Oquendo and Baca-Garcia 2014).

Assessing Suicidal Behavior Using Self-Report Measures

A standardized self-report measure is available for researchers and clinicians to examine suicidal behavior. Ghasemi et al. (2015) revealed 11 self-report measures to assess suicidal behavior and 12 scales to investigate suicidal ideation. These self-report measures are relatively easy and inexpensive to self-administered by the respondents. Several self-report measures assess only specific types of suicide (e.g., Reynolds 1991), probability of suicide in the future (e.g., Cull and Gill 1982), or past suicidal behavior (e.g., Linehan and Nielsen 1981), and some suitable to target respondents, for instance, the Spectrum of Suicidal Behavior Scale, were developed by Pfeffer et al. (1979) to assess suicidal behavior among children, and the Columbia-Suicide Severity Rating Scale (C-SSRS) was designed to quantify the severity of suicidal ideation and behavior for adolescents and adults (Posner et al. 2008).

The Suicidal Behavior Questionnaire-Revised (Osman et al. 2001)

The Suicidal Behaviors Questionnaire-Revised (SBQ-R; Osman et al. 2001) is a brief self-report measure of suicidal behavior and past attempts consisted of four items. The SBQ-R item was designed to assess past suicide ideation and suicide attempts, to tap the frequency of past suicidal ideation, to evaluate the threat of suicidal behavior, and to assess the likelihood of suicide.

Adult Suicidal Ideation Questionnaire (Reynolds 1991)

The frequency of suicidal thoughts or ideation was measured using the 25-item Adult Suicidal Ideation Questionnaire (ASIQ; Reynolds 1991). In this self-administered questionnaire, the respondents were generally asked to rate how frequently they have experienced each thought using a 7-point scale ranging from 0 (never had this thought) to 6 (almost every day). The ASIQ total score is obtained by summing all responses from the items; the total score ranges from 0 to 150.

Suicide Probability Scale (SPS; Cull and Gill 1982)

The Suicide Probability Scale (SPS; Cull and Gill 1982) can be used to measure the probability or risk of suicide. Each of the SPS items is rated on a 4-point Likert-type scale ranging from none or a little of the time to most or all of the time. This inventory consisted of four dimensions of the suicide risk construct hopelessness, suicidal ideation, negative self-evaluation, and hostility.

Risk Factors of Suicidal Behavior

Although suicidal behavior often occurs in the context of a psychiatric condition, however, there is a case where people who die by suicide have no identifiable mental disorders. In the USA, for instance, estimation of 10% of people who suicide and 37% in China was not due to mental disorders (Oquendo and Baca-Garcia 2014). On top of that, reports showed that socioeconomic (Kim et al. 2016), workplace victimization

(Hourani et al. 2018), bullying victimization (Holt et al. 2015), sexual/physical abuse (Miller et al. 2017), chronic strain (Schiff et al. 2015), and social risk factors (Franklin et al. 2017) were also positively associated with the risk of suicidal behavior. Biological factors were also statistically significant but relatively weak associated with suicidal behavior (Chang et al. 2016). Recent studies found that sleep disturbance and Internet addiction combined were also significantly related to suicidal behavior (Cheng et al. 2018; Kim et al. 2017; Sami et al. 2018). One study in Malaysia reported that no reasons for living and lack of palliative coping strategy were the main predictors for suicidal behavior among adolescents (Che Din et al. 2018). Another study in Malaysia also reported that being an Indian female and younger age (16–24 years old) was a high risk of suicidal behavior (Maniam et al. 2014). In contrast, Ibrahim et al. (2017) revealed that suicidal ideation was higher among males than that of females. Further analysis suggested that age was the predictor of suicidal ideation for males. Maniam et al. (2014) and Talib and Abdulolahi (2017) confirmed that psychiatric conditions particularly depression were predictors for suicidal behavior.

Over the past 50 years, empirical studies have identified more than 50 risk factors to bring about suicidal behavior, for instance, life stresses, prior suicide attempts, mental disorders, family history of suicide or mental illness, childhood abuse, substance abuse, violence, being exposed to others' suicidal behavior, chronic illness, and disaster. Therefore, the causes of suicidal behavior clearly result from a complex interaction of many different risk factors, but more than 90% of people who die by suicide have a psychiatric issue (O'Connor and Nock 2014). Yet, risk factors for suicidal behavior have shown a similar pattern over the past 50 years (Franklin et al. 2017) due to some limitation in research methodology, conceptual and operational definitions, as well as models/theories testing using sophisticated statistical analysis. Therefore, future studies must take into consideration research methodology constraints in conducting and evaluating suicidal behavior studies and intervention programs.

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Sullivan, Harry Stack

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The psychiatrist Harry Stack Sullivan was born on February 21, 1892, in rural Chenango County, New York, and died in a Paris hotel room from the effects of a chronic heart condition on January 14, 1949. Just several days before his death, Sullivan had arrived in Europe to attend the inaugural conference of the World Federation for Mental Health. His life’s path, which took him from his parents’ farm and a modest upbringing to the intellectual centers of a burgeoning profession, was never a straight one, nor was it without impediments (Perry 1982).

Early Life

Growing up in a predominantly protestant community during a time of surgent nativism, Sullivan, the only child of second-generation Irish-Catholic immigrants, was ostracized by his classmates. From early on, Sullivan showed great promise as a student and was awarded a state scholarship to attend Cornell University. Although, for reasons that remain unclear, he was suspended there before he could enter his second year. With the support of a local physician, he was later able to attend the Chicago College of Medicine and Surgery, by Sullivan’s own account, a second-rate medical school, where he did not excel academically. After completing his studies, he first found employment in a steel mill as an industrial surgeon before enrolling in the National

Guard and, in 1918, joining the Medical Reserve Corps. It was during this time that Sullivan reportedly first came into contact with psychoanalysis; and in 1921, he would take on the position of liaison officer for the Veterans Bureau as a “neuropsychiatrist” at St. Elizabeths Hospital in Washington, DC.

Early Career

According to Sullivan’s biographer, Ellen Swick Perry (1982), Sullivan’s years at this renowned, federally operated psychiatric clinic marked the beginning of a personal transformation: Previously, socially isolated, often haunted by emotional crises and economic insecurities, Sullivan now entered a period of steady employment, finding both intellectual fulfilment and social belonging through his work. Under the tutelage of William Alanson White, the clinic’s superintendent, he could hone his therapeutic skills treating severely ill patients. White also recommended Sullivan for a position at Sheppard and Enoch Pratt Hospital in Towson, Maryland, where he first came to prominence for his exceptional success in the treatment of male patients diagnosed as schizophrenics. (It should be noted, however, that the patients Sullivan had so successfully treated would today no longer be diagnosed as suffering from schizophrenia (cf. Wake 2006).) After 8 years at Sheppard-Pratt, where he had advanced to the position of director of clinical research, Sullivan was forced to resign because of controversies surrounding his treatment methods. In 1930, Sullivan set up a private practice in New York City where he embarked on a career as a lecturer and clinical consultant.

Professional Reform

Although widely admired for his abilities as a therapist, Sullivan never received full recognition as a theoretician outside a group of devoted students during his lifetime; and his social activism and progressive politics were met with suspicion by his conservative colleagues (Cushman 1996).

Contested and initially marginalized, his work and influence remain difficult to assess. His dense, often enigmatic writing style and the fact that his main theoretical contributions were only published posthumously – mostly as transcripts of lectures given toward the end of his career – have also played their part in making his thinking less accessible. Publications, however, were not the only medium through which his ideas were to permeate the helping professions. Sullivan was deeply involved in ongoing efforts both to reform medical education and to expand the knowledge base of psychiatry. He was the driving force behind implementing the eclectic curricula of the innovative psychoanalytic training institute, the Washington School of Psychiatry, and its New York affiliate, the William Alanson White Institute, and, in 1938, founded the journal *Psychiatry* as a forum for the kind of interdisciplinary research he envisioned for the profession. Although he demonstrated considerable aptitude at forging political alliances, many of his initiatives were stymied, especially after so-called classical or Freudian psychoanalysis became rigidly institutionalized and, for a fateful yet relatively brief period in the immediate postwar years, dominant in the United States. Still, as a teacher, advocate, and sought-after clinical consultant and supervisor, Sullivan exerted considerable influence over a generation of practitioners from various disciplines. Both as a clinician and scholar, Sullivan responded to what he regarded as the social needs of his time. Compared to other leading figures in the field, he was far less concerned with establishing his own brand of psychotherapy or delimiting his methods from those of other approaches. The labels that have been attached to his work thus vary: Sullivan has been categorized as a neo-Freudian, counted among the members of the so-called culture and personality school in anthropology, and belatedly celebrated as a pioneer of interpersonal psychotherapy.

Psychiatry as Social Science

Although Sullivan’s therapeutic approach and evolving theories may be difficult to pigeonhole, much of his work is driven by a central impetus: to

forge clinical psychiatry with the social sciences (see, e.g., Sullivan 1964). Sullivan's varied interests and influences never devolved into arbitrary eclecticism. At the heart of his work was the idea that an individual can only be adequately understood when viewed in the context of his or her social environment. Not only did Sullivan emphasize the role of what, from 1927 onward, he termed "interpersonal factors" in the process of psychological development (Wake 2006), he went further by claiming that personality can only be conceived of as existing *within* such relations. "In the [...] particularist sense, when we are talking as if the infant were a complete discrete entity," Sullivan asserted in an oft-cited passage in one of his lectures, "personality is the relatively enduring pattern of recurrent interpersonal situations which characterize a human life" (Sullivan 1953, p. 111, emphasis in original). Personality then is not regarded as the sum of individual attributes; rather it is treated as a collection of situations, a recognizable pattern of social interactions. This view, in turn, had implications for how Sullivan described therapeutic practice and the role of the therapist: Psychiatrists were deemed experts in interpersonal relations tasked with helping their patients recognize and amend those established patterns of social interaction that caused them mental anguish or, as Sullivan was the first to put it, "problems in living" – a phrase later adopted by the psychiatrist and psychiatry critic Thomas Szasz. In this process, the therapist took on the role of a participant observer rather than a detached diagnostician or decipherer of the patient's unconscious.

Participant observation was, of course, a research method first employed by cultural anthropologists. Sullivan did develop much of his later theoretical framework in exchange with social scientists, particularly members of the Chicago School of Sociology. After a consequential meeting with the linguist Edward Sapir in 1926, at the time, professor of cultural anthropology at the University of Chicago, Sullivan would embark on a campaign to seek institutional and financial support for social-scientifically grounded research in psychiatry (Perry 1982, ch. 28). This also led to enduring collaborations with the political scientist Harold Lasswell as well as the sociologist Ernest

Burgess (Wake 2008). In his *Interpersonal Theory of Psychiatry*, Sullivan further listed the works of George Herbert Mead and Charles Cooley, both associated with the Chicago School, Adolph Meyer's psychobiology, Freudian psychoanalysis, cultural anthropology, and Gestalt psychologist Kurt Lewin's "field theory" as decisive influences (Sullivan 1953, p. 17).

Sullivan drew freely on these sources as he theorized how social encounters and culturally shared beliefs shape personality development and individual experience. Influenced by Sapir, Mead, and Cooley, for instance, he turned his attention to symbol use and communication. It is through the interaction with others, Sullivan postulated, that an individual establishes what he called a self-system, "an organization of educative experience" that initially emerges to avoid feelings of anxiety (Sullivan 1953, p. 165). He also used the term "personifications" to describe how interaction patterns or "dynamisms" with significant others become internalized and gain relative stability. As did Freud, Sullivan speculated about the nature of formative events during infancy before the acquisition of language. But unlike Freud, he emphasized the role of the relational dynamic that begins to unfold soon after birth between the infant and the primary caregiver, drawing attention to developmental phases that predate the Oedipus complex – the central developmental milestone per orthodox Freudians. Moreover, according to Sullivan, anxiety not only originates from an individual's wants or their obstruction but also from feelings of anxiety experienced by significant others that are transmitted through basic social interactions. Sullivan also proposed an alternative to the Freudian developmental model that reflects his concern with social, rather than psychosexual development: As children advance from infancy through childhood to adolescence and adulthood, they become involved in a steadily widening array of types of social relations with others outside the nucleus of the family. An important developmental achievement of the preadolescent phase, for instance, is engaging in a close, trusting relationship with a peer (the other phases proposed by Sullivan are infancy, childhood, the juvenile phase, early

adolescence, late adolescence, and adulthood or maturity). Disturbances during these developmental epochs, Sullivan further argued, may lead to problems in living later in life.

Sullivan did not undertake this widening of the scope and empirical base of psychoanalytic theory in isolation from other psychoanalysts. In New York, he came into contact with Karen Horney and Erich Fromm, recent émigrés to America, who also envisioned a social-scientific orientation for psychoanalysis. It is because of his weekly meetings with a group of other revisionist psychoanalysts, the so-called Zodiac group, to which – besides Horney and Fromm – also Clara Thompson and Billy Silverberg belonged that Sullivan’s work is often labeled as neo-Freudian.

Psychiatry and Social Reform

In the last decade of his life, Sullivan increasingly directed his efforts to improving not just the lives of individual patients but of society as a whole. True to the spirit of progressivism, he envisioned an important role for the social scientist in the reforming of social practices and societal institutions. However, his engagement also grew out of a commitment that was deeply personal. Sullivan began his career during a period of rapid social and cultural transformation. Through his work in industrial urban centers such as Chicago and Baltimore, both of which were also home to a considerable immigrant population, he witnessed firsthand the shifting social mores of his day. Outdated sexual norms, he argued, for instance, were bound to do harm if they inhibited personal development (see Wake 2006, 2011). Being gay himself, he encouraged male patients with homosexual longings to overcome their own acquired inhibitions and to give into them without feelings of guilt. Indeed, it was because of transgressions that were rumored to have occurred under his watch at Sheppard-Pratt that he was made to resign (see also Chatelaine 1992). Sullivan’s liberal attitudes toward sexuality may have made him a trailblazer for gay rights within a profession that has a long and troubling history of not

just harboring but also fostering homophobic views (Blechner 2005). Given the social circumstances at the time, though, he rarely disclosed his sexual orientation to others; and despite his innovative therapeutic techniques, he still echoed the then accepted view that homosexuality was a not fully developed, deficient form of sexuality.

But, as Sullivan saw it, misguided, overly strict sexual norms were not the only culprit when it came to the mental health problems of his day. Generally, he believed that the self-system functioned to a large extent as a psychological defense that emerged *because* of societal inadequacies – or as Sullivan would put it, the “irrationality of culture” – that stood in the way of healthy development and harmonious social relations (Sullivan 1953, p. 168). With the onset of World War II, modern society’s destructive forces became ever more apparent; and it was during this time that Sullivan increasingly turned to preventive psychiatry as a means to shape the public’s response to humanistic catastrophe. As the United States entered World War II, Sullivan acted as an advisor to the US Army’s Selective Service System, designing the psychiatric screening process of inductees (Pols 2007). Soon after the war had ended, 1 year before his death, Sullivan was also summoned to participate in the UNESCO’s Tensions Project in Paris, a 2-week symposium to deliberate the reasons for the nationalistic aggression that had devastated the continent. The invited eight participants were all influential thinkers in their respective fields, among them luminaries such as Max Horkheimer, Arne Naess, and Gordon Allport (Perry 1982).

Legacy

In the decades after his unexpected death, interest in Sullivan has steadily grown, particularly since the stifling grip has loosened that orthodox Freudian psychoanalysis once had on the development of alternative theoretical viewpoints and therapeutic techniques. The turn to relational concepts in psychoanalysis in the 1980s and 1990s lets his legacy appear in a new light (see, e.g., Conci

2012). Besides being celebrated as a highly empathic, technically innovative therapist, he increasingly became recognized as a visionary who anticipated many of the theoretical developments psychoanalysis was to undergo in the second half of the twentieth century.

Cross-References

- ▶ [Developmental Epochs](#)
- ▶ [Fromm, Erich](#)
- ▶ [Horney, Karen](#)
- ▶ [Interpersonal Theory of Psychiatry \(Sullivan\)](#)
- ▶ [Malevolent Transformation \(Sullivan\)](#)
- ▶ [Neo-Freudians](#)
- ▶ [Personifications](#)
- ▶ [Role of Peers in Personality Development, The](#)

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Sullivanan Psychology

- ▶ [Interpersonal Theory of Psychiatry \(Sullivan\)](#)

Sulloway, Frank J.

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Frank J. Sulloway is an Adjunct Professor in the Department of Psychology and a member of the Institute for Personality and Social Research at the University of California, Berkeley.

He conducts research in (1) evolutionary psychology, (2) ecology and evolutionary biology, and (3) the history of science.

Early Life and Educational Background

Sulloway was born on February 2, 1947 in Concord, New Hampshire. He earned his A.B., *summa cum laude*, in History and Science from Harvard University in 1969. He received his A.M. (1971) and Ph.D. (1978) in the history of science from this same university. During his time at Harvard, Sulloway's interests in Darwin and evolutionary biology were stimulated by his contact with Edward O. Wilson and especially Ernst Mayr (Sulloway 2001a, 2005b). Sulloway was also mentored by Jerome Kagan, a psychologist known for his seminal work on the development of personality and temperament from infancy to adulthood.

Professional Career

While at Harvard, Sulloway was elected a Junior Fellow in the Society of Fellows (1974–1977). He then spent a year at the Institute for Advanced Study (Princeton, NJ). After receiving his Ph.D. from Harvard in 1978, he became a Research Fellow in

the Miller Institute for Basic Research in Science at the University of California, Berkeley, where he was also affiliated with the Department of Psychology (1978–1980). Between 1980 and 1984, he held postdoctoral fellowships at the Massachusetts Institute of Technology, Harvard University, and University College London. In 1984 Sulloway was the recipient a 5-year MacArthur Award (1984–1989) from the John D. and Catherine T. MacArthur Foundation, which was based on his previous contributions to Darwin and Freud scholarship. He spent this time as a Visiting Scholar in the Department of Psychology at Harvard University, and also as Vernon Professor of Biography at Dartmouth College (1986). In 1989 he joined the Program in Science, Technology, and Society at the Massachusetts Institute of Technology, where he was a Visiting Scholar for the next decade, including a year as a Research Fellow in the Dibner Institute for the History of Science and Technology (1993–1994). A fellowship at the Center for Advanced Study in the Behavioral Sciences at Stanford University (1998–1999) was followed by a Miller Research Professorship at the University of California, Berkeley (1999–2000). Since 2000 Sulloway has been a member of the Institute for Personality and Social Research at UC Berkeley. He was appointed Adjunct Professor in the Department of Psychology at this university in 2011.

Sulloway has authored more than 100 publications in journals such as *Science*, *Nature*, *American Naturalist*, *Current Biology*, *Evolution and Human Behavior*, and *Psychological Bulletin*. His book *Freud, Biologist of the Mind: Beyond the Psychoanalytic Legend* (1979b) received the Pfizer Award of the History of Science Society for its revisionist reconstruction of Freud's intellectual development and has been translated into five languages. His book *Born to Rebel: Birth Order, Family Dynamics, and Creative Lives* (1996) earned the James Randi Award of the Skeptics Society for "the application of scientific methods to history" and has been translated into seven languages. In 1997 Sulloway received the Golden Plate Award of the American Academy of Achievement, being selected by prior recipients Francis Crick, Stephen Jay Gould, and Edward O. Wilson. He is a Fellow of the American

Association for the Advancement of Science, the Association for Psychological Science, and the Linnean Society of London; and he is a member of the Human Behavior and Evolution Society, the American Psychological Society, the Society for Personality and Social Psychology, and the History of Science Society.

Research Interests

Dr. Sulloway's research interests encompass four general areas: (1) the life and theories of Charles Darwin; (2) the sources of Freud's psychoanalytic theorizing and their implications for psychoanalysis as a science; (3) personality development and family dynamics, understood from the perspective of evolutionary psychology; and (4) research on the behavioral ecology and evolution of Darwin's iconic Galápagos finches. In addition, Sulloway's ecological studies of invasive species in the Galápagos Islands have contributed to conservation efforts in this archipelago.

1. *Darwin scholarship*. Sulloway's research on Charles Darwin's life and ideas has focused on process by which Darwin's voyage on HMS *Beagle* transformed him from creationist to evolutionist and set him on the path to writing the *Origin of Species*. While still an undergraduate at Harvard University, Sulloway organized an eight-person film expedition to retrace Darwin's footsteps during the *Beagle* voyage (Stevens 1969; Sulloway and Adams 1970). Research growing out of this film project led Sulloway to challenge one of the most widespread legends in the history of science. In a series of publications about Darwin's intellectual development, Sulloway showed that Darwin's conversion to evolution did not occur during the *Beagle* voyage, as had previously been thought, but instead took place 6 months after his return to England (Sulloway 1982d, 1983b, 1984, 1985, 2005a, 2009a). Behind this delay in Darwin's acceptance of evolutionary theory lies a story of previously unknown collecting and classification errors on Darwin's part and the eventual

correction of these errors by other naturalists back in England. Sulloway's findings drew on a detailed examination of Darwin's voyage notebooks as well as the specimens Darwin collected during the *Beagle* voyage. From these archival sources, Sulloway showed that Darwin initially mistook many of his iconic Galápagos finch species for the forms they resemble through convergent evolution (Sulloway 1982b, 1983a). Only after Darwin had returned to England were these crucial confusions in classification rectified by taxonomic specialists – particularly by ornithologist John Gould – allowing Darwin to realize, for the first time, how strongly this Galápagos evidence supported the theory of evolution. Sulloway (1979a, 2009b) has also traced the development of Darwin's theories from 1837, when he became an evolutionist, to 1859, when the *Origin of Species* was finally published.

As an outgrowth of his research on Darwin and the Galápagos, Sulloway (1982c) undertook a monographic treatment of all known *Beagle* type specimens of Darwin's finches, identifying for the first time an unknown collection by Captain FitzRoy's steward, Harry Fuller, and establishing the existence of a previously unrecognized subspecies in this avian group. This research also resolved a long-standing enigma in avian taxonomy, namely, why Darwin's type specimens at the British Museum do not match the morphological characteristics currently observed for each island form. Based on new evidence, including his discovery of the only known Galápagos specimen label in Darwin's hand, Sulloway proved conclusively that Darwin had not labeled his Galápagos finch specimens by island at the time he collected them, in large part because he was not yet an evolutionist and hence had not realized the crucial role that geographic isolation plays in the origin of new species (Sulloway 1979a). Fortunately, three other *Beagle* collectors had recorded Galápagos locality information, as Sulloway established from previously overlooked manuscript sources in the Darwin Archives at Cambridge

University Library. From these manuscript records, Sulloway showed that Darwin attempted, 2 years after collecting his Galápagos finches, to identify his specimens by island, using locality information derived from the other three collections. Unfortunately, Darwin and subsequent museum curators were led to speculate in many cases and thus to identify incorrectly the localities of the type specimens now housed at the British Museum. These errors in island assignments created a taxonomic nightmare for subsequent ornithologists because Darwin's specimens no longer corresponded with their expected morphology based on the indicated island provenances. Given these discrepancies, some ornithologists incorrectly concluded that Darwin's finches must have evolved these morphological differences after Darwin collected his own specimens. By distinguishing the accurate locality information provided by the other three *Beagle* collections from the speculative island attributions added by Darwin and others at a later date, and by using statistical evidence derived from morphological features of the specimens themselves, Sulloway was able to assign a correct locality to almost every problematic specimen – assignments that were confirmed, two decades later, by molecular genetic evidence.

2. *Freud Scholarship*. Sulloway's book *Freud, Biologist of the Mind: Beyond the Psychoanalytic Legend* (1979b) was an outgrowth of his research on the insufficiently recognized role that evolutionary and other biological approaches to the mind played in Freud's psychoanalytic theorizing. Freud was trained in the 1870s as a neuroanatomist and evolutionary biologist under the tutelage of distinguished German physiologist Ernst Brücke. During the 6 years that he worked in Brücke's lab, Freud absorbed a number of key biological assumptions about human and animal evolution. These assumptions are clearly evident in Freud's earliest writings about his supposedly empirical observations and discoveries as a psychoanalyst, but they had been overlooked or ignored by previous Freud scholars.

Unfortunately, Freud's core beliefs included various mistaken neurological hypotheses as well as Lamarck's erroneous theories about the inheritance of acquired characteristics and Ernst Haeckel's biogenetic law, which maintained that ontogeny recapitulates phylogeny. These erroneous suppositions, Sulloway argued, led directly to a series of crucial flaws in Freud's psychological thinking, undermining the foundations of his psychoanalytic enterprise. One important component of Sulloway's historical argument consisted of his documentation of Freud's extensive and revealing marginalia in the books he owned and read during the 1890s, when psychoanalytic theory was being formulated.

To shield Freud's problematic theories from refutation, as well as to obscure their substantially deductive and unoriginal origins, Freud and his followers later portrayed these theories as the embodiment of a "pure psychology," claiming, for example, that Freud's ideas were in no way derivative but rather were inspired by his revolutionary therapeutic work. *Freud, Biologist of the Mind* unmasked the previously unknown derivations of Freud's theories from these now-falsified biological assumptions and thereby elucidated some of Freud's most serious errors about human cognition and psychosexual development. The book also provided a detailed analysis of the "Freud legend" together with how this legend was subsequently nurtured by Freud and his followers in an effort to protect Freud's theories from criticism and repudiation.

Upon publication of *Freud, Biologist of the Mind* in 1979, psychologist Robert Holt wrote that the book was "fascinating as a kind of scientific detective story," and Harvard intellectual historian Donald Fleming asserted that "virtually the whole of the existing literature on Freud has been rendered obsolete." In its Award citation, the Pfizer Award committee recognized the book for its "prodigious scholarship" and for shedding important new light on the scientific status of psychoanalysis. Along with Henri Ellenberger's *Discovery of the Unconscious* (1970) and trenchant

critiques of Freud's "scientific" methods by Frank Cioffi (1974) and Adolf Grunbaum (1984), Sulloway's research spurred a major reassessment of Freud's scientific status; and these publications collectively paved the way for a torrent of critical evaluations that followed over the next several decades. Sulloway's subsequent writings about Freud have focused largely on the pseudoscientific nature of much of psychoanalytic theory (Sulloway 1982a, 1983c, 1991, 2000, 2007b, 2016).

3. *Birth order, family dynamics, and evolutionary psychology*. The principal goal of Sulloway's *Born to Rebel* (1996) was to understand the specific influences that contribute to revolutionary achievements in science and other fields. Based on 26 years of research, the book analyzed biographical data drawn from 28 scientific revolutions and 93 upheavals in politics, religion, and social thought. More specifically, the work drew on extensive statistical analysis of more than 200 biographical, demographic, and situational variables systematically compiled for each of the 6,566 participants in these 119 controversies. A principal focus of *Born to Rebel* was its effort to understand what influence, if any, birth order exerts on personality and especially radical thinking. In particular, the book endeavored to test a broader, Darwinian perspective on how family dynamics relates to individual development.

Born to Rebel sought to contribute to research on human development in two principal ways. First, it proposed a Darwinian framework for understanding, organizing, and interpreting previous findings on birth order, personality, and family dynamics. Sulloway argued that many birth order effects are best conceptualized as sibling strategies for surviving childhood and hence for increasing fitness, sometimes at the expense of siblings (see also Sulloway 1995, 2001b, 2010; Hertzwig et al. 2002; Rohde et al. 2003, where these same theoretical arguments are tested using data from contemporary populations). In this connection Sulloway has maintained that siblings are much like Darwin's finches in that

they tend to diversify within the family by occupying and exploiting different family niches in an effort to maximize parental investment and the acquisition of other family resources (Sulloway 1996, 2010). Differing sibling strategies, as well as disparities in parental investment and the diversity of within-family environments, are also relevant influences in the well-documented relationship between birth order and intellectual achievement (Sulloway 2007a; Zajonc and Sulloway 2007). Upon publication, *Born to Rebel* was described by historian of science I. Bernard Cohen as “the first book which really uses Darwinian evolution to produce a new way of doing history successfully.”

In subsequent tests of some of these same evolutionary hypotheses, Sulloway and Zweigenhaft (2010) conducted a meta-analysis of 24 previous studies of risk-taking in athletics ($N = 8,340$). They showed that laterborns were 1.5 times more likely than firstborns to participate in dangerous sports such as rugby, football, and downhill skiing, after controlling important background factors such as sibship size and social class. This study also found that among 700 brothers who played major league baseball, younger brothers were 1.7 times more likely to attempt to steal bases than their older brothers, 1.4 times more likely to be caught stealing bases, and 1.4 times more likely to successfully complete stolen base attempts (see also Schwartz 2010).

Sulloway’s continuing interest in the biographical antecedents of social and political change is reflected in his contribution to a meta-analysis of data on political attitudes drawn from 22,818 participants in 88 different studies (Jost et al. 2003). This study, which has received over a thousand citations, showed that social attitudes are substantially mediated by aspects of social cognition that assist in the management of uncertainty and threat. Sulloway has also applied meta-analytic techniques in his studies of openness to innovation in science and other fields, and he has particularly emphasized the need for taking into account situational factors as moderator

variables in explaining who accepts, and who rejects, conceptual change (Sulloway 2009c, 2014b).

4. *Research in ecology and evolutionary biology.* Since his first expedition to the Galápagos Islands in 1968, Sulloway has made 14 additional trips to these islands in order to conduct field research in ecology and evolutionary biology. He generally collaborates with other researchers studying avian behavior and evolution, and he also conducts research on invasive species and their deleterious effects.

One aspect of Sulloway’s research in the Galápagos Islands dates from his 1968 film expedition to these islands. By examining thousands of landscape photographs taken in the Galápagos during the last century, Sulloway (2009a) has sought to document extensive ecological changes caused by invasive species, including goats, donkeys, pigs, rats, and mice, as well as plant and insect species. As part of one ongoing ecological study, Sulloway has used repeat photography to reconstruct the giant tree *Opuntia* population of a small island (South Plaza), cactus by cactus, and has documented extensive loss of *Opuntia* during the last half century (Sulloway and Noonan 2013; Sulloway 2014a, 2015). Working at other sites on different islands, Sulloway has used comparative analyses of cactus size and spatial distribution to elucidate the age structure and recruitment patterns of cacti over time. This collective evidence has shown that losses occurring in *Opuntia* populations are part of an ecological cascade that commenced with the local extinction of the Galápagos hawk following the arrival of settlers on Santa Cruz Island in the 1920s. Subsequent to the hawk’s extinction, nearby South Plaza experienced a commensurate increase in the population size of land iguanas, which depend on fallen fruits and cladodes from tree *Opuntias* for food and water. As a consequence, land iguanas on this island have exceeded the local carrying capacity of the environment by consuming not only fallen fruits and cladodes (from which new plants grow) but also young seedlings. Based in

substantial part on this ongoing research, a Dutch foundation has provided more than a million dollars in funding to implement an ecological restoration program at sites where Sulloway has worked.

Sulloway's research on Darwin's finches encompasses evolutionary, behavioral, and conservation aspects. In one series of studies, Sulloway and colleagues have shown that natural selection on Darwin's small ground finch (*Geospiza fuliginosa*) is sufficiently strong to create substantial morphological differences within a single small island, over a geographic gradient of only 18 km, despite gene flow along the cline (Sulloway and Kleindorfer 2013; Kleindorfer et al. 2006; Galligan et al. 2012). In another study involving Darwin's tree finches, Sulloway and his collaborators have documented the adaptive nature of mate selection within this avian group, whereby females tend to select as mates older males who are more adept at building nests that are concealed from predators. The darker plumage of older males has evolved through discriminatory female choice to increase breeding success (Kleindorfer et al. 2009).

Another aspect of this research program on Darwin's finches is focused on the devastating effects of an introduced ectoparasite (*Philornis downsi*), the larvae of which feed on nestling finches. This parasite causes 3–100% in-nest chick mortality in most years, through lesions and blood loss, and is considered the biggest risk to survival among all Galápagos land birds (O'Connor et al. 2010a, b). *Philornis* also creates deformation of the nares (nostrils) owing to the fact that adult flies lay their eggs inside the nares. The larvae consume the soft keratinous tissue within the nares before moving to the bottom of the nest during the second instar and emerging at night to feed on the blood of nestlings. The recent discovery of *Philornis* on the Ecuadorian mainland raises the question of whether this parasite, which was first recorded in the Galápagos in 1964, is native to these islands. In an effort to resolve this matter, Sulloway has measured the nares of

several hundred finch specimens collected by the California Academy of Sciences in 1905–1906, as well as specimens procured by Robert Bowman in the 1960s. Statistical analysis of this morphological evidence has revealed that naris deformation was not present in Galápagos finches prior to the early 1960s, establishing that *Philornis* was introduced sometime during the late 1950s or early 1960s (Kleindorfer and Sulloway 2016).

In another contribution to the study of Darwin's finches, Sulloway and colleagues have documented a case of reverse evolution, which is currently taking place among three species of tree finches on the island of Floreana (Kleindorfer et al. 2014). Owing to the effects of *Philornis*, which are more prevalent among species that nest higher in the *Scalesia* forest canopy (Kleindorfer et al. 2016), females of the medium tree finch on Floreana have been hybridizing with males of the small tree finch. Hybridization with the smaller species confers an adaptive advantage to medium tree finches, inasmuch as hybrid offspring are less susceptible to future *Philornis* depredation. This same study has established that the large tree finch is now extinct on Floreana, apparently owing to hybridization between large and medium tree finches. The medium tree finch, which is found only on the island of Floreana, is currently considered “critically endangered” (O'Connor et al. 2010a). A continuing trend toward reverse evolution may eventually result in the extinction of this species. On publication in *American Naturalist*, this study elicited widespread news coverage, including a two-page commentary in *Nature* by Peter and Rosemary Grant (2014).

Perhaps the most intriguing biological discovery in which Sulloway has participated involves research on the superb fairy wren (*Malurus cyaneus*), an Australian passerine bird whose males are noted for their gleaming, velvety blue plumage. The females of this species sing a special song to their unhatched eggs. As soon as the chicks hatch, this song ceases. Embedded within this song is a short sound segment that contains what may be characterized as a “password.” After hearing the mother's song, newly hatch chicks incorporate this password into their begging calls

(Colombelli-Négrel et al. 2012). The purpose of this incubation call and its transmission to offspring is to thwart depredation by cuckoos. Female cuckoos lay a single egg in the nests of host species, such as the superb fairy wren, but only when host eggs are already present. This feature of egg-laying timing among cuckoos means that superb fairy wren offspring gain an earlier exposure to the mother's password than do cuckoo imposters. Fairy wren offspring are therefore able to imitate the password more faithfully, and female fairy wrens will abandon a nest in which a single cuckoo chick fails to reproduce the password with sufficient fidelity, thus avoiding wasted time and effort in raising another species' offspring. Through cross-fostering experiments, Colombelli-Négrel et al. have established that the fairy wren password is learned rather than innate, although a small degree of genetic variation is also present in each mother's call. Following its publication in *Current Biology*, this study received considerable new attention, including stories in *Science*, *Nature News*, and *Discover* magazine. The study was also selected by ABC Science as one of the ten most notable scientific discoveries of 2012 (Osborne, 2012).

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Superego

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The superego is one of the three components of the psyche, according to Freud's structural model of 1923. In 1923, Freud moved his map of the mind from a topographical model, which divides the psyche into the conscious, preconscious, and the unconscious, to a structural model. This modification emerged from Freud's clinical experience with patients and his growing realization that the former model was insufficient to capture the central element of psychopathology: the internal conflict between different parts of the mind (Mitchell and Black 1995). Freud suggested that the conflict occurs between different structures of the mind rather than between the strata of consciousness (Mitchell and Black 1995). The structural model is focused on the division of the unconscious into three primary components of the psyche: the id, (see: id) the ego, (see: ego), and the superego.

The superego is a cluster of internalized parental or societal moral values and censoring stances that are held within the person's psyche and impact his or her thoughts, feelings, and behavior. The superego is present in the conscious, preconscious, and unconscious (Freud 1961/1923; Lapsley and Stey 2011). The primary action of the superego is to suppress the id's urges and desires that are considered socially unacceptable (Freud 1961/1923). It forms an organizing part of the personality structure that includes the

individual's ego ideals, spiritual goals, and the inhibitions of one's drives, fantasies, feelings, and actions. The superego directs our sense of right and wrong and constitutes the source of guilt. As the superego unwaveringly strives for perfection, it may disregard the facts of reality in its pursuits (Freud 1964/1933).

The superego is the last component of personality to develop in Freud's theory of psychosexual development. The id is present since birth and represents the basic, primal part of our personality. The ego begins to develop during the first 3 years of a child's life. The development of the superego is a consequence of navigating one of the major psychosexual developmental milestones, called the Oedipus complex. During the *Oedipus complex* (see: Oedipus complex) around age five, the male child develops sexual feelings toward the mother and aggressive wishes towards the father who is perceived as a romantic rival. These feelings and wishes, in turn, create a fear in the child that the father will castrate him as punishment (see: castration anxiety). In order to repress these uncomfortable feelings, the child identifies with his father, thereby internalizing his father and his affiliated power, as well as his moral strictures and conventions, leading to an ego ideal (Freud 1961/1923). The ego ideal was originally considered the symbol of perfection and suitable aspirations, but later Freud subsumed the ego ideal concept into the superego (Freud 1914, 1961/1923). Later, the superego comes to include other authority figures as well as social norms (Freud 1962/1930, 1964/1933). The superego ensures that we are socially acceptable by guaranteeing that our behavior conforms to societal norms (Snowden 2006; Mitchell and Black 1995). In the process of identification with the father, the psyche's aggressive tendencies are converted into the harshness of the superego (Freud 1961/1923). The intensity of the Oedipal wish and its subsequent repression determines the degree of internalization of the superego and its sovereignty over the ego.

In addition to the ego ideal, the superego also includes the conscience, which represents the

guidelines for behaviors that are deemed appropriate or punishable. When individuals behave in line with their ego ideal, they feel proud and accomplished, but when they contradict the conscience, the person will feel guilty and remorseful (Laplanche and Pontalis 1973).

As the superego operates on all levels of consciousness, an individual may feel guilty without conscious knowledge of the reason for it. However, the experience of guilt informs the individual that the superego is in operation. Similarly, the aggressive instinct is controlled by the superego and can be converted into a harsh conscience, which may be the only conscious evidence of the instinct. Aggression is therefore governed by this internal moral authority (Freud 1962/1930). Freud believed that through the work of analysis, one is able to discover some of these unconscious effects of the superego and thereby improve one's functioning and well-being (Freud 1961/1923).

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Superior Temporal Sulcus

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Synonyms

STS

Definition

The superior temporal sulcus is a long furrow within the temporal lobes. It is functionally related mainly with speech and social perception. Its anterior and posterior ends are highly associative areas dealing with higher-level processes contributing to recognition, understanding, and reasoning about oneself and others.

Introduction

The superior temporal sulcus (STS) is a long surface of grey matter folded to form a trench dividing the superior and middle temporal gyri – two rounded ridges on the cortical surface. The STS is located both in right and left cerebral hemisphere, and its length corresponds to approximately half of the cerebral cortex's length. Due to its size, its bilaterality, and its multiple connectivity nodes, the STS is attributed to numerous (and partially still debated) functions. In light of this complexity, the present entry therefore focuses on the well-evidenced functions, with an emphasis on the linguistic and social aspects, as they are related to the two most established sets of functions associated with the STS. To facilitate the understanding of the functional organization of the STS, Figure 1 provides a meta-analysis of neuroimaging studies based on Neurosynth (Yarkoni et al. 2011) illustrating which topics (taken from studies' titles and abstracts) are

commonly associated to six different STS sites (equally spaced vertically) in each hemisphere.

Anatomy

The STS is located on the lateral surface of the temporal lobe and follows a ventral-anterior (or dorsal-posterior) inclination. Its posterior part ends dorsally in the surrounding angular gyrus, which is a part of the temporo-parietal junction (TPJ). The TPJ refers to a loosely defined brain area neighboring the intersection of the temporal and parietal lobes, which are anteriorly the supra-marginal gyrus and posteriorly the angular gyrus and a rostrocaudal part of the occipital lobe (see also entry on ► [TPJ](#) in this encyclopedia). Hence, the most posterior part of the STS (pSTS) is sometimes referred to as the angular gyrus or the TPJ. As for the anterior STS (aSTS), it extends ventrally and is sometimes included in, and thus referred to as, the temporal pole (Ribas 2010). The aSTS and pSTS are connected with multiple cortical lobes and are thus heteromodal associative areas, with the aSTS being particularly connected with the orbital and ventrolateral pre-frontal cortex (PFC), whereas the pSTS is particularly connected with parietal cortices and the dorsolateral PFC. In contrast, the middle STS has mainly intra-temporal connections and processes the auditory signals relayed by primary auditory cortex located in the dorsal bank of the superior temporal gyrus.

Functions

Language is a key function attributed to the whole STS bilaterally, with a left-hemispheric dominance for syntactic processes and a right-hemispheric dominance for prosodic processing. Neighboring the primary auditory cortex, the bilateral middle STS is particularly involved in phoneme-level (smallest sound units of speech) processing of speech, while the middle to posterior STS deals with semantic processing by mapping words with their widely distributed meanings, in particular in the left-hemisphere. Sentence-level semantic

Audio-visual integration allows combining observed dynamic stimuli, such as actions (e.g., footsteps, tearing an object) and facial movements (e.g., vocalizations), with their corresponding sounds. Audio-visual integration recruits bilaterally the pSTS but at different location depending on the stimuli to be processed: speech is more left-hemisphere dominant, and anterior, nonverbal voice sounds (e.g., emotion sounds) are more right-dominant, and objects are most posterior (Stevenson and James 2009).

Reorienting attention refers to detection of unattended and unexpected stimuli toward which attention is shifted, or reflexively reoriented from a different focus of attention. This attentional mechanism is particularly implemented via the ventral attention network, which consists essentially in the ventral PFC and the TPJ extending to the pSTS, with a right-hemispheric predominance.

Autobiographical memory is a memory system allowing storing and retrieving information about oneself, which consists in both a collection of personal experiences and semantic information (i.e., facts and knowledge). The retrieval of such memories recruits a largely distributed network that encompasses bilaterally the aSTS and the most posterior part of STS, that is, the TPJ (Spreng and Grady 2010).

Self-other attribution refers to the processes leading to attributing causality of actions (i.e., agency), ownership of body parts or voices, or references of various stimuli (e.g., a name, traits, personal belongings) to the self or another person. These three processes recruit predominantly the right hemisphere at various locations within the STS depending on the actual stimulus to be attributed. Self-other attribution of agency (e.g., perceiving self/other-executed movements as externally/self-controlled due to altered visual feedbacks), however, consistently recruits the pSTS/TPJ, in particular when actions and expected outcomes do not match (Sperduti et al. 2011).

Theory of mind (ToM) and empathy are both strongly associated with the aSTS and the pSTS, with mentalizing (i.e., inferring mental states of

others) being the common denominator for both regions. The recruitment of the temporal poles is believed to provide access to personal memories and general semantic social rules to understand the state of mind of others. This implies that aSTS is not always recruited for mentalizing but only for complex stimuli where social narratives need to be formed (Olson et al. 2007). Although, ToM and empathy are consistently shown to recruit bilaterally the pSTS overlapping with the TPJ, the exact function of these regions remain controversial (this issue is further addressed in entry TPJ).

Resting state activity, corresponding to the default mode network, refers to a set of brain areas preferentially active and functionally correlating when one is asked to rest in an environment with minimal external stimulation while staying awake. Mental activities typically performed during a resting state are said to be self-referential in nature and consist in mind-wandering, daydreaming, remembering and planning events, thinking about others and oneself. Within the STS, resting state activity is mainly found in aSTS and the TPJ bilaterally (Spreng and Grady 2010).

Personality differences across individuals are in several ways associated with the temporal poles, and particularly in the right hemisphere. Other parts of the STS have been associated with individual differences in personality traits but no consistent pattern has yet emerged; the importance of the temporal pole may be explained by its strong ties with the orbitofrontal cortex and the amygdala, key regions involved in socio-emotional processing. Direct involvement of right temporal pole is supported by the occurrence of the Klüver-Bucy syndrome following dysfunction of this region caused by temporal variant of fronto-temporal dementia, herpes encephalitis, or post-ictal temporal lobe epilepsy. The Klüver-Bucy syndrome is characterized by social withdrawal, poor facial expression, voice prosody recognition and production, apathy, and egocentrism due to a loss of interest in social interaction; these changes directly impact personality traits such as extraversion, social dominance, and neuroticism

(Olson et al. 2007). Congruently, several recent fMRI studies showed associations between neuroticism (and emotional stability in general) and functional and structural features of the right temporal pole.

- ▶ Neuroticism
- ▶ Orbitofrontal Cortex
- ▶ Social Dominance Orientation
- ▶ Temporo-parietal Junction
- ▶ Theory of Mind

Conclusions

Many cognitive functions anatomically overlap in the STS and these functions strongly interact, where integration culminates in the aSTS and pSTS: sounds become identified speakers conveying verbal contents; images become moving agents expressing social cues; and identities, verbal contents, actions, and social cues combine to form rich understandings and predictions of others' behaviors.

The pSTS overlapping with the TPJ appears to be a nexus of information equipped with attentional and reasoning mechanisms allowing to detect and transform social cues into meaningful and predictable social agents (Lamm et al. 2016). On the other side, the right and left aSTS overlapping with the temporal poles can be viewed as a socioemotional and semantic hub, respectively. They sit at the end of the “what” streams of auditory and visual processing, where auditory and visual modalities converge, integrate, and combine with limbic areas. This integration allows highly processed audio-visual representations to be linked with their personal and semantic meaning and constitute the personal semantic memory. Put more simply, together, the aSTS and pSTS contribute to the ability to personally recognize, attach, understand, and interact with others as much as to recognize, know, and reason about oneself.

Cross-References

- ▶ Empathy
- ▶ Extraversion
- ▶ Lateral Prefrontal Cortex (LPFC)
- ▶ Medial Prefrontal Cortex (MedPFC)

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Superiority Complex

- ▶ [Striving for Superiority](#)

Supernatural

- ▶ [Paranormal Beliefs](#)

Supernumerary Personality Inventory, The

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Synonyms

[SPI](#)

Definition

The SPI measures ten facet-level traits thought to lie beyond the Big Five personality factor space. It is a self-reported instrument comprising 150 items, each to be rated on a 1 (*strongly disagree*) to 5 (*strongly agree*) Likert-type scale. Completion time is estimated to be 15 min.

Introduction

The Supernumerary Personality Inventory (SPI; Paunonen 2002) was developed to measure ten facet-level traits that supposedly reside outside the factor space of the well-known Big Five personality dimensions. These ten traits are Conventionality, Seductiveness, Manipulativeness, Thriftiness, Humorousness, Integrity, Femininity, Religiosity, Risk-taking, and Egotism. Brief

descriptions of these traits can be found in Hong and Paunonen (2009) and Paunonen et al. (2003). These traits are measured using 150 items (15 items per facet scale) on 5-point Likert-type rating scale.

The motivation behind developing the SPI stems from a debate on the comprehensiveness of the Big Five model of personality. Proponents of the Big Five have argued that all essential human traits fall within its factor space (Saucier and Goldberg 1998). In other words, one would be hard pressed to locate a trait that falls outside the coverage of the Big Five model. Paunonen and Jackson (2000) reexamined Saucier and Goldberg's data and argued that the statistical criterion used by the latter authors to determine whether a trait was part of the Big Five domain was extremely liberal, thus leading to the conclusion that the Big Five was comprehensive in covering all traits. In using a more reasonable criterion, which Paunonen and Jackson still considered liberal by conventional statistical standards, several of these traits were subsequently classified as falling outside of the Big Five space. These traits subsequently became the basis for developing the SPI as an inventory that assesses personality variables beyond the Big Five.

Development and Psychometric Properties

The construct validity (or theoretical) approach in test construction (Jackson 1971) was adhered to in the development of the SPI (Paunonen 2002). After careful consideration of a trait's definitional and theoretical bases, items were written to represent exemplar behaviors or sentiments of that trait. Care was taken in item selection to ensure that the SPI scales were internally consistent, homogeneous, and not correlated with other scales.

The SPI exhibits good psychometric properties. In general, SPI scales are internally consistent with coefficient alphas averaging about 0.80 (e.g., Lee et al. 2005; Paunonen 2002; Paunonen et al. 2003). The SPI Conventionality scale is usually the least reliable (alpha about 0.65), whereas the

Religiosity scale is the most reliable (alpha about 0.95). Scale mean scores typically fall between 40 and 50, about the middle of the range of theoretically possible values (i.e., 15–75).

Agreement on the SPI scales between self and informant reports is comparable to coefficients obtained from other personality inventories (i.e., between 0.44 to 0.51 across SPI scales; Hong et al. 2012; Paunonen and Hong 2013). Nonetheless, there is some variability with some SPI measures (e.g., Conventionality, Manipulativeness, Integrity) showing low self-informant agreement whereas other measures (e.g., Seductiveness, Femininity, Religiosity) exhibiting high agreement. This disparity is likely due to whether the traits being rated are predominantly made up of overt behaviors or attitudes and sentiments not directly observable by informants (Paunonen and O’Neill 2010).

Factorial and Predictive Validity

Although the ten supernumerary traits are thought to constitute distinct classes of behaviors, factor analyses done on the SPI scales have indicated an organizing structure to those scales. A series of exploratory factor analyses done by Paunonen and colleagues yielded a 3-factor solution. The first factor consisted of the scales of Seductiveness, Manipulativeness, (low) Thriftiness, and Egotism and was given the label “Machiavellian.” The second factor comprised Conventionality and Religiosity and thus was named “Traditional.” The third factor consisted of (low) Humorousness, Integrity, Femininity, and (low) Risk-taking and was named the “Masculine-Feminine” factor. This factor structure was found among undergraduate students in Canada (Paunonen 2002) and in the United Kingdom, Germany, and Finland (Paunonen et al. 2003). Lee et al. (2005) found a slight variant of this 3-factor solution, with (low) Integrity replacing Thriftiness in the Machiavellian factor. These preliminary findings suggest that the SPI scales can be organized structurally into three higher-order common factors representing (a) a dimension of social malevolence, (b) a conservative orientation toward

religious and traditional customs, and (c) a tendency toward feminine (or masculine) features.

The ten supernumerary traits are initially conceptualized to be largely orthogonal to the Big Five dimensions of personality. True to this conceptualization, the SPI scales (either at the individual facet or factor levels) do not correlate highly with measures of the Big Five (Lee et al. 2005; Paunonen 2002; Paunonen et al. 2003). Some of these supernumerary traits, however, show strong associations with other traits also known to fall outside of the Big Five factor space. These other traits include the Honesty-Humility factor of the HEXACO model of personality (Ashton and Lee 2007) and the Dark Triad traits of Machiavellianism, narcissism, and psychopathy (Paulhus and Williams 2002).

The HEXACO Honesty-Humility factor, which captures the extent to which individuals are sincere and fair-minded in their interpersonal dealings, is associated very strongly ($r = -0.73$) with the SPI Machiavellian factor (comprising Seductiveness, Manipulativeness, Integrity, and Egotism; Lee et al. 2005). Similarly, the Dark Triad traits are most strongly associated with the SPI Machiavellian traits of Seductiveness, Manipulativeness, and Integrity (Veselka et al. 2011). Narcissism was also strongly associated with SPI Egotism. The Dark Triad traits also correlated significantly, albeit weaker in magnitude, with the SPI Masculine-Feminine traits (i.e., Humorousness, Risk-taking, Femininity, and Thriftiness). While the Masculine-Feminine traits tended to correlate more strongly with psychopathy, the Machiavellian traits showed strong associations with all of the Dark Triad traits. Taken together, traits under the SPI Machiavellian factor overlap substantially with the HEXACO Honesty-Humility factor and the Dark Triad traits. This provides a convincing case that socially malevolent traits may not be well represented under the Big Five framework.

The SPI traits have been shown to predict a wide range of consequential outcomes. In the domain of health behaviors, high Risk-taking and low Integrity predicted self-reported health-risk behaviors, such as alcohol consumption and

speeding (Hong and Paunonen 2009; Paunonen et al. 2003). In the workplace domain, six of the ten SPI trait scales were significant predictors of counterproductive behaviors such as theft and the mistreatment of coworkers (O'Neill and Hastings 2011). Of these six traits, Integrity accounted for the most variance in workplace deviance, followed by Risk-taking and Seductiveness. Hong et al. (2012) demonstrated that Seductiveness, Manipulativeness, low Thriftiness, and low Integrity predicted a materialistic attitude; and Manipulativeness and low Integrity predicted unethical behavior. More important, in these abovementioned studies, SPI trait scales also showed incremental predictive validity above and beyond the Big Five traits. Therefore, the prediction of certain outcomes can be further enhanced when supernumerary traits are taken into consideration alongside the Big Five model.

Heritability of the SPI Traits

A behavior genetics analysis (Veselka et al. 2011) showed that most SPI traits exhibited substantial genetic (average = 0.45) and non-shared environmental (average = 0.36) influences, with the exception of Seductiveness and Manipulativeness. Interestingly, shared and non-shared environmental influences accounted for most of the variance in Seductiveness and Manipulativeness. This is consistent with the associated finding that the Dark Triad trait of Machiavellianism is strongly influenced by shared and non-shared environmental influences. In addition, the observed correlations between the Dark Triad traits of narcissism and psychopathy with SPI traits were largely accounted for by correlated genetic and correlated non-shared environmental factors. Conversely, the phenotypic correlations between Machiavellianism with the SPI traits of Seductiveness and Manipulativeness were primarily driven by correlated shared and non-shared environmental influences. While it seems that most SPI traits are heritable, the tendency to use seduction and social exploitation in interpersonal interactions might be largely learned within the context of family.

Conclusion

The Big Five model is currently the dominant model of personality structure, but caution has to be exercised with regard to its comprehensiveness, as claimed by its proponents. The SPI model (along with the HEXACO and Dark Triad models) provides ample evidence that some important personality traits are not very well represented within the Big Five universe. In behavior prediction and explanation, the usefulness of the SPI traits is most evident as an augment to the Big Five model as they can potentially account for criterion-valid variance otherwise missed by the Big Five factors (Paunonen and Hong 2015). As such, researchers are encouraged to carefully consider if their outcome criterion of interest might be predicted by personality variables outside of the Big Five. If so, the ten supernumerary traits of the SPI might constitute a valuable set of variables for researchers to take into consideration.

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Superstitious Beliefs

- ▶ [Paranormal Beliefs](#)

Supplementation

- ▶ [Compensation](#)

Support

- ▶ [Social Support Processes](#)

Suppression

- ▶ [Personality and Memory](#)
- ▶ [Repression \(Defense Mechanism\)](#)
- ▶ [Thought Suppression](#)

Suppression (Defense Mechanism)

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Definition

Suppression is the defense mechanism by which individuals cope with distressing mental contents by voluntarily making efforts to put them out of conscious awareness until there is an opportunity to cope adaptively with those stressors.

Introduction

Suppression shares similarities with the defense mechanism of repression, but in the latter, distressing mental contents do not become easily accessible to consciousness, as individuals more or less involuntarily make efforts for that not to happen. In contrast, suppression does not disturb self-awareness. At a cognitive-behavioral level, suppression should be clearly differentiated from experiential avoidance, a coping strategy characterized by active efforts to avoid unpleasant mental contents (thus, overlapping conceptually with the psychodynamic concept of repression) (Chawla and Ostafin 2007), but unlike in suppression, not with the aim of facing the stressors in a constructive manner, when the opportunity arrives.

Suppression and Mental Health

Suppression is considered an adaptive defense as it allows attention being focused on the important things at hand without being disturbed by intruding thoughts and feelings until there is an oppor-

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tunity to cope adequately with those stressors. Suppression is considered a mature defense mechanism, because it promotes healthy functioning in adults. As such, it belongs to the top of the hierarchy of defense maturity and adaptedness (Blaya et al. 2007; Vaillant 1985). Empirical evidence demonstrates that more use of suppression is related to better psychological adjustment (Bond 2004; Vaillant 1985), including greater social support, happiness, and resilience against mental disorders. Concordantly, experimental research suggests that suppression is more effective among those with greater resting heart rate variability, which is thought to be a marker of self-regulation and flexible adaptation to environmental changes (Gillie et al. 2015).

Suppression was found to be less used by patients with borderline personality disorder compared with other personality disorder patients (Bond 2004; Zanarini et al. 2013). In borderline personality disorder patients, less use of suppression was related to impulsive aggression, but not to affect instability (Koenigsberg et al. 2001). However, it is not clear if lack of suppression leads to impulsive aggressiveness or if impulsive aggression leads to deficits in suppression.

Suppression appears to be less used by anxiety disorder patients (Blaya et al. 2007). Successful behavior therapy for obsessive-compulsive disorder was shown to increase the use of adaptive defenses (including suppression), and this increase was associated with improvements in obsessive-compulsive and depressive symptoms (Albucher et al. 1998). In fact, the use of suppression is also expected to increase with therapy for depression (Bond 2004).

In one study addressing the relationship between therapist and patient in psychodynamic therapy, it was found that a positive countertransference characterized by feelings of closeness in the therapist correlated with the use of suppression in the patient (Machado et al. 2015), which favors the psychotherapeutic process. Furthermore, others found that, in psychodynamic psychotherapy, a better therapeutic alliance is facilitated by a higher, mature, level of defense functioning with suppression as a main defense in the patient (Bond 2004).

Suppression might be often used by terminal cancer patients to cope with disease-related stressors, and there have been calls of attention that there should be care in differentiating it from denial in this particular context (Dansak and Cordes 1978).

Conclusion

Empirical evidence supports the role of suppression as an adaptive defense mechanism.

Cross-References

- ▶ [Defense Mechanisms](#)
- ▶ [Dissociation \(Defense Mechanism\)](#)
- ▶ [Psychoanalysis](#)
- ▶ [Psychodynamic Perspective](#)
- ▶ [Unconscious](#)

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Surface Behavior

- [Surface Trait](#)

Surface Trait

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Synonyms

[Observable behavior](#); [Surface behavior](#)

Definition

In Cattell's theory of personality, one way to classify traits is as surface traits or source traits. Surface traits are personality elements that can be directly observed, in contrast to source traits, which must be inferred through statistical methods. One way to think about surface traits is that since they are at the "surface" of an individual's personality, their behavioral expression can be more easily noticed by others. Overall, Cattell identified 46 surface traits in his research on basic personality traits.

Introduction

To better understand what causes human behavior, researchers have considered both situational

factors (i.e., the environment) and individual differences (i.e., personality traits). Trait theory focuses on the human personality as being composed of many traits, as well as describing how individuals differ on these traits. As such, in studying personality traits, researchers seek to learn what traits underlie human behavior and how to best measure them.

Cattell's "Personality Sphere"

One of the earliest researchers to attempt to answer these questions was Raymond Cattell (1905–1998), a British psychologist and trait theorist. Cattell believed that the best way to comprehensively map out human personality was by using the lexical approach. According to the lexical approach, all important personality traits should already be represented by language. As such, by analyzing all of the trait words in a given language, a comprehensive structure of personality can be identified, which Cattell (1943) referred to as the "personality sphere" or "trait sphere." By using the lexical approach, Cattell sought to overcome weaknesses in previous personality research, including the lack of generalizability (i.e., trying to equate healthy and clinical populations without empirical evidence that they are similar), lack of quantification (i.e., because of lack of objective measures of personality), and lack of the use of statistical analyses to assess the results obtained (Cattell and Kline 1977).

The Identification of Surface Traits

Although Gordon Allport identified over 4500 trait words in English (Allport and Odbert 1936), Cattell condensed this list to 171 trait terms by removing synonyms, as identified by two independent raters (Cattell 1943). After administering these trait terms to a sample of 100 adults, who were rated on these traits by a peer, Cattell (1943) further reduced them to 36 clusters of correlated adjectives. He labelled these "surface traits." Later, he added an additional 10 surface traits to his original list, bringing the total to

46 (Cattell and Kline 1977, p. 31). These 46 surface traits were the variables that Cattell used in his factor analysis to identify the 16 latent (or statistically inferred) variables, which he labelled “source traits” (see “► [Source Trait](#)”). A complete list of surface traits is presented in Cattell (1957).

The label of “surface traits” reflects individual characteristics that are easily observable. To illustrate, one surface trait is “self-assertive vs. self-submissive,” which is characterized by acting boastful, assertive, and conceited, as opposed to acting modest, submissive, and self-critical (Cattell 1945). Given that surface traits can be easily noticed in others’ behavior, people should be able to judge whether another person is assertive or submissive.

Conclusion

According to Cattell, the surface traits he identified represent the entire structure of human personality, given their origins in the entire lexicon of trait words, at least in English (Cattell and Kline 1977). To identify these surface traits, Cattell relied on a combination of theory (i.e., the lexical approach), expert judgment (i.e., identification of synonyms), as well as statistical foundations (i.e., the use of groups of correlated trait words), which overcame previous shortcomings in personality research. Additionally, surface traits, as the variables used in the factor analysis that identified source traits, helped pave the way for the 16 Personality Factor Questionnaire (16PF; Cattell and Mead 1949), which was the first global measure of personality, as the development of Tupes and Christal’s (1961) five factors (Surgency, Agreeableness, Dependability, Emotional Stability, Culture), Goldberg’s (1990) Big Five (Surgency, Agreeableness, Conscientiousness, Emotional Stability, Intellect), and Costa and McCrae’s (1992) Five-Factor Model (Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness). Thus, Cattell’s research on surface traits substantially contributed to modern personality theory and psychology as a science.

Cross-References

- [Lexical Approach](#)
- [Sixteen Personality Factor Questionnaire \(16PF\)](#)
- [Source Trait](#)

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Surgency

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Synonyms

[Extraversion](#); [Exuberance](#); [Gregariousness](#); [Positive affectivity](#); [Positive emotionality](#)

Definition

Surgency is a temperament dimension that reflects an individual’s disposition toward positive affect,

approach, sociability, high-intensity pleasure, reward seeking, and a high activity level.

Introduction

This chapter provides an overview of the construct of Surgency. It presents a brief review of the construct itself, measurement methods, changes across development, longitudinal stability, heritability, and brain mechanisms associated with Surgency. Further details on each of these topics can be found in the articles included in the reference list. In particular, Rothbart (2011), Putnam (2012), Goldsmith et al. (1997), and Kennis et al. (2013) provide more detailed reviews of the topics covered in this chapter.

The Construct of Surgency

Surgency is a temperament dimension associated with expressions of positive emotions, reward seeking, and a high activity level (Rothbart 2011); some conceptualizations of the construct also include sociability, lack of shyness, and social dominance (Shiner and Caspi 2003). A more everyday way of describing a person with a high level of Surgency is to say that they are energetic, sociable, positive, and outgoing, and enjoy exciting or intense activities. Surgency is closely related to the concept of Extraversion, but Surgency is more commonly used in the developmental psychology literature. In factor analyses of self- and caregiver-reported temperament, Surgency has appeared as one of three core temperament dimensions (the other dimensions being Negative Affect and Effortful Control) that appear in infancy and develop throughout childhood and adolescence (Rothbart 2011). Within the “Big Five” conceptualization of temperament (suggesting five overarching dimensions rather than three), Surgency is equivalent to the Extraversion/Positive Emotionality factor (Shiner and Caspi 2003).

Ways of Measuring Surgency

Surgency and its sub-components in terms of more specific temperament traits can be measured in several different ways.

The most popular method of assessment is self-report questionnaires and caregiver questionnaires. For example, parent questionnaires containing multiple items relating to the child’s behavior and reactions have been used extensively in research on the development Surgency and other temperament dimensions (Putnam et al. 2001). A pioneer in this field is Mary K. Rothbart who, with her colleagues, has developed parent- and self-report questionnaires covering the full developmental range from infancy to adulthood. Individual items in these questionnaires are worded very carefully in order not to put unnecessary demands on parents’ memory (e.g., parents are asked how often a specific behavior was observed in the last 1–2 weeks) or induce comparative or value judgments (e.g., terms that imply that the child is difficult, inattentive, or badly behaved are avoided). Parent report questionnaires have the advantage that parents are natural observers of their child in a range of situations, thus providing a reliable measure of the same trait based on multiple observations. The main drawback of parental report is that it may be biased or reflect the parent’s own traits more than the child’s (Vaughn et al. 2002).

An alternative way of assessing Surgency and related traits is to observe the child directly in their home or school environment. Although this provides a more objective measure, the child is unlikely to display the full range of relevant behaviors in a single visit. Thus, naturalistic observation is very time-consuming, expensive, and likely to be limited to a small range of traits.

Finally, Surgency-related traits can be observed in the laboratory by presenting the child with structured play situations. For example, the experimenter may present the child with a novel toy and record the child’s reaction. Specific behaviors can subsequently be coded from video, e.g., how much the child smiled and/or laughed when presented with the toy. Although this method is more controlled and is designed to elicit specific behaviors, like naturalistic observation, it is limited to a small number of temperament traits. It is also less ecologically valid as the child may behave differently in the lab environment compared to their daily life (for a discussion of this

issue specifically in relation to Surgency/Positive Affect, see Putnam 2012).

As is clear from this brief review, there is no single method that is perfect for assessing temperament. Therefore, researchers have used a combination of these methods to gain a deeper understanding of Surgency and its development. In some instances, measures from two methods converge, strengthening the construct's validity. For example, Rothbart et al. (2000) found that laboratory and parent report measures of smiling and laughter, an important aspect of Surgency in infancy, were highly correlated across the first year of life.

Structural Changes in the Surgency Construct Across Development

Although evidence suggests that the temperament dimension of Surgency exists across the lifespan, there are subtle changes in the structure of Surgency across development. Surgency emerges in infancy around 2–3 months of age. Factor analysis has indicated that in infancy subscales loading onto the Surgency/Extraversion factor include approach, vocal reactivity, high-intensity pleasure, smiling and laughter, activity level, and perceptual sensitivity (Gartstein and Rothbart 2003). Aspects of Surgency, such as approach, activity level, and smiling and laughter, have also been reliability assessed in infancy using laboratory observation. This research has found an increase in the expression of positive emotions, a key aspect of Surgency, during the first year of life (Rothbart et al. 2000) (Fig. 1).

As infants enter childhood, the Surgency factor changes slightly to include aspects of impulsivity and sociability / lack of shyness (Putnam et al. 2006; Rothbart et al. 2001). That is, aspects of Surgency related to the construct of Extraversion, such as being sociable and less shy, become more apparent. Likewise, lack of impulse control becomes part of the Surgency factor, perhaps reflecting that very exuberant children struggle to “put the brakes on” when needed (Putnam 2012; Rothbart 2011; Rothbart et al. 2000). These age differences are likely due to the fact that the expression of temperament characteristics changes with development, for example, an infant may express Surgency through a high activity

level and rapid approach to new objects and people, whereas an older child or adult may express this trait through engaging in high-risk sports and similar activities and/or through being very sociable and chatty (for discussion, see Putnam et al. 2001; Shiner and Caspi 2003). However, some age differences may not be integral to the Surgency construct itself, but rather a reflection of subtle differences in assessment and scale construction – for example, it is difficult to assess impulsivity in infants before they have adequate motor skills to express this trait.

In adulthood, the Surgency construct is highly overlapping with Extraversion. In addition to the approach, high-intensity pleasure, and positive affect aspects observed consistently in infancy and childhood, the adult Surgency/Extraversion construct includes the dimensions of sociability (enjoyment of being with other people) and social closeness (feelings of warmth and closeness with others). Also, in accordance with research on young children, high Surgency/Extraversion is associated with a lower level of inhibitory control in adulthood (Evans and Rothbart 2007).

Longitudinal Stability

Rothbart et al. (2000) found significant stability in positive affect from 3 to 13.5 months of age. In this study, positive affect was assessed by structured stimulus presentation in the laboratory and formalized as the latency, intensity, and duration of smiling and laughter elicited in these episodes. Rothbart et al. (2000) did not find stability of parent-rated smiling and laughter between infancy and middle childhood; however, a more recent study in a much larger sample did (Komsis et al. 2006). Furthermore, Rothbart et al. (2000) found that both laboratory and parent report measures of approach behaviors, smiling and laughter, and frustration in response to goal prevention in infancy predicted other childhood Surgency-related traits, such as activity level, impulsivity, positive anticipation, and high-intensity pleasure.

Putnam et al. (2008) found that scores on the Surgency factor, as assessed by age-appropriate questionnaires in a large sample, were modestly to moderately stable across infancy, toddlerhood, and early childhood. However, recent work



Surgency, Fig. 1 Smiling and laughter is one of the key components of Surgency in infancy

investigating the Surgency factor between infancy and middle childhood, using the same questionnaires in a sample of 96 children, indicated that higher Surgency at 9 months predicted lower Negative Affect at 8 years rather than predicting Surgency itself (K. Holmboe, unpublished data). Similarly, Rothbart et al. (2000) found that fast approach to objects in infancy predicted lower levels of sadness in middle childhood. Other findings suggest that early Surgency-related traits predict later Effortful Control (the ability to regulate behavior and emotions), although the direction of the effect depends on the age at which Surgency is first assessed as well as the specific scales included in the infant Surgency construct (Komsis et al. 2006; Putnam et al. 2008; for discussion, see Putnam 2012).

These findings suggest that, in terms of individual differences, some stability, but also some discontinuity, in the Surgency construct exists between infancy and later childhood. Surgency in the first few years of life is also predictive of other important aspects of temperament, such as negative affect and self-control, later in childhood.

Few studies have looked at stability in Surgency across a longer time period. Caspi and Silva (1995) studied a large group of participants from 3 to 18 years of age ($N = 862$). Temperament was assessed by observers in childhood and by self-report in early adulthood. It was found that Positive Emotionality was the only factor that did not show stability between 3 and 18 years of age. However, Caspi and Silva (1995) did find that a group of children defined as “confident” (mainly

involving a high level of approach behaviors) rated themselves as more impulsive as well as interpersonally strong in young adulthood. Again, this suggests continuity in some aspects of the Surgency construct but also some elaboration and change with development.

Heritability and Brain Mechanisms

Like most other temperament dimensions Surgency/Extraversion has a substantial heritable component. An adult twin study by Tellegen et al. (1988) estimated that 40% of variation in Positive Emotionality/Extraversion could be accounted for by genetic influences. However, Positive Emotionality was unique compared to other temperament dimensions in that it also had a moderate (22%) shared environment component. That is, in addition to genetic influences, the shared environment that individuals grew up in (typically thought of as the family environment) had a significant influence on how positive and extraverted they became (Tellegen et al. 1988). Goldsmith et al. (1997) found a similar effect in toddlers and young children. Again, Positive Affect/Extraversion was unique compared to other temperament dimensions in being influenced by the shared environment in addition to the genetic effects (Goldsmith et al. 1997).

In terms of brain mechanisms involved in Surgency/Extraversion, functional magnetic resonance imaging (fMRI) research has found a positive correlation between Extraversion and amygdala activation in response to positive emotional stimuli (Canli 2004). A positive association between approach-related traits and brain activity in response to positive stimuli has also been found in the striatum, ventral tegmental area, and the anterior cingulate cortex (Kennis et al. 2013). These findings indicate that individuals who score high on measures of Surgency/Extraversion activate a network of emotion- and reward-related brain areas more strongly when presented with positive or rewarding stimuli. Furthermore, a recent developmental study found that children who scored high on a laboratory measure of Positive Emotionality at 3 years of age had an amplified neural response to reward (as assessed by the event-related potential component ΔFN) 6 years later

(Kujawa et al. 2015), again linking the construct of Surgency/Extraversion to the brain's reward circuitry.

It is important to note that although Surgency is closely related to positive affect, different systems may be involved depending on whether a strong approach tendency or reward motivation is involved or whether positive affect is expressed in a low-stimulation context (for discussion, see Putnam 2012).

Conclusion

In conclusion, Surgency denotes a set of traits involving approach, positive affect, and sociability. The concept is particularly relevant to the developmental literature but overlaps substantially with Extraversion. Surgency changes with development: in infancy, Surgency is primarily associated with fast approach and displays of positive emotions. Later in childhood and in adulthood, Surgency often involves an aspect of impulsivity. Research has shown some longitudinal stability in specific aspects of Surgency, but at the factor level, there is sometimes a lack of longitudinal stability. Surgency has a substantial heritable component. However, in contrast to other temperament traits, the family environment also appears to play an important role in shaping individuals' surgent traits. Finally, Surgency appears to be associated with activation in brain areas involved in emotion and reward processing.

Cross-References

- ▶ [BIS/BAS Systems](#)
- ▶ [Extraversion](#)
- ▶ [Positive Affect](#)
- ▶ [Sensation Seeking](#)
- ▶ [Sociability](#)

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Surprise

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Synonyms

[Astonishment](#); [Bewilderment](#); [Shock](#); [Wonder](#)

Definition

An emotional or cognitive response following an unexpected or unexplained event

Introduction

Following initial observations by Darwin (1872), surprise is typically considered to be a basic human emotion which plays a key role in a number of cognitive phenomena including attention and learning (Foster and Keane 2015). In recent years the significance and pervasiveness of surprise has been recognized in numerous contexts, with a growing body of literature pointing to its importance in diverse disciplines including development, education,

artificial intelligence, and psychology. Yet despite this burgeoning research, debate remains regarding the exact definition of surprise, partly due to the numerous factors involved in this experience.

Components of Surprise

Like the other basic emotions, surprise has a number of distinct components, with a surprise response manifesting itself in three ways: (1) subjectively, in terms of a “feeling” of surprise; (2) physiologically, as evidenced, for example, by a distinct pattern of event-related potentials (Duncan-Johnson and Donchin 1977); and (3) behaviorally, most notably through an interruption to ongoing activities, or slowed reaction times in tasks and actions (Meyer et al. 1997). Surprise may also be evidenced behaviorally through characteristic facial expressions including widening of the eyes, arching of the eyebrows, and opening of the mouth (Ekman and Friesen 1971) or through the magnitude of the “startle eyeblink” (Amodio and Harmon-Jones 2011). It is thought that such behaviors facilitate attention focusing (Itti and Baldi 2009), pointing to the evolutionary advantage of surprise in helping organisms identify the cause of unanticipated events (Darwin 1872; Meyer et al. 1997).

While surprise has been conceptualized as a trait, with individual differences in reported surprise more strongly associated with behavioral indicators such as the startle eyeblink response (e.g., Amodio and Harmon-Jones 2011), it is more commonly thought of as an emotional state. However it has also been argued that surprise should *not* be considered a basic emotion, given that it does not necessarily involve valence or directionality of feeling as is the case with the other basic emotions (see Foster and Keane 2015). In addition, contrary to Ekman and Friesen’s (1971) observations, surprise does not always give rise to consistent facial expressions, suggesting that universal features may not be readily identifiable (Reisenzein

et al. 2013). Instead, given its role in sensemaking and attention focusing, surprise may more accurately be conceptualized as a cognitive, rather than an affective, state (Maguire et al. 2011).

The Role of Expectation and Explanation in Surprise

Since surprise is typically elicited by external events or observations, much work has tried to establish what type of events give rise to this experience (Maguire et al. 2011). The traditional definition of surprise is to view it as a reaction to an *unexpected* event, with many theories adopting a probabilistic framework in explaining this phenomenon (e.g., Itti and Baldi 2009; Meyer et al. 1997). More specifically, these approaches hold that surprise results when an individual encounters an event that previously had a low probability of occurring or one that was deemed to actively disconfirm a previously held expectation. However, while numerous studies have supported this view, the idea that surprise is purely based on probability has been disputed (Maguire et al. 2011). For instance, a low probability or unexpected event need not always be surprising when it occurs, suggesting that these constructs are not inversely related.

An alternative class of theories view surprise as the upshot of a sensemaking process (Foster and Keane 2015; Maguire et al. 2011; Pezzo 2003). These approaches hold that an event is deemed surprising when it cannot easily be *explained*. Surprise occurs when an observation seems discrepant with a person’s existing representation of the world. Thus low probability or schema-discrepant events that can be quickly integrated into an individual’s representation need not lead to surprise, a view which has been supported empirically (Foster and Keane 2015; Maguire et al. 2011). This idea is consistent with the phenomenon of hindsight bias where observed events are considered less surprising after they occur once an explanation has been generated (Pezzo 2003).

Determinants of Surprise

While it has been argued that surprise occurs when perceived events exceed a surprisingness “threshold” (Meyer et al. 1997), this experience is likely to fall along a continuum with varying degrees of surprise possible. For instance, at a basic level, the easier it is to explain something, the lower the surprise should be (Maguire et al. 2011).

Further studies have revealed that the extent of surprise experienced depends on a number of additional individual and environmental factors, including prior knowledge, task demands, and situational context (Foster and Keane 2015). In line with this, surprise may also vary with outcome valence (positive events may be perceived as more surprising), perceived relevance, and gender, with females reporting greater levels of surprise than males in certain situations (Juergensen et al. 2014).

Conclusion

The above research highlights the wide variability that can exist in the degree that surprise is experienced as well as the debates that abound in how best to conceptualize this phenomenon. While some dispute remains in terms of exactly what factors give rise to a surprise response (namely, whether it is based on degree of expectation or ease of explanation), and indeed whether it can be considered to be a true emotion, surprise is undoubtedly an important and ubiquitous characteristic which is central to human cognition.

Cross-References

- ▶ [Basic Emotions](#)
- ▶ [Cognitive Theory of Emotion](#)
- ▶ [Facial Expressions and Emotion](#)
- ▶ [Psychoevolutionary Theory of Emotion \(Plutchik\)](#)
- ▶ [Subjective Experiences](#)
- ▶ [Wonder](#)

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Suspiciousness

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Synonyms

Persecutory delusions; Paranoid ideation;
 Suspiciousness

Definition

Paranoia, or extreme suspiciousness of malicious intent from others, is the second most commonly reported symptom of psychosis (after ideas of reference) and the most widely studied subtype of delusion (others being grandiose, erotomanic, jealous, somatic, and mixed). These fixed, unfounded malevolent beliefs occur in approximately 50% of individuals with signs of schizophrenia who make first contact with service agencies. Persecutory delusions are the most likely type of delusion to be acted on and are a predictor of admission to hospital. While delusion subtypes are often interrelated, a recent factor analytic study has demonstrated that paranoia is a separate type of psychotic experience and therefore merits study in its own right. Regular paranoid ideation, beyond the healthy level that keeps an individual away from harm's way, can cause immense distress to the individual and tension with his or her family, friends, and society.

The growing interest in the assessment and treatment of persecutory delusions in both clinical and nonclinical adult populations is reflected in the number of publications in academia and the public domain. To date, PubMed has indexed an average of 170 scientific publications a year on paranoia, which is double the corresponding figure from the 1960s. Google's corpus of 5.2 million digitized books during the same time period showed that the terms "paranoia" or "paranoid" increased to meet that of the terms "delusions" and "delusion," which reflects a growing interest and relevance in paranoia outside of academia. But why are people interested in it?

Historically, clinicians and psychologists (Jaspers 1968, 1997; Kraepelin 1921) have studied the experiences of clinical patients and long debated the definition of paranoid beliefs, with no single account considered complete. The ambiguity in the classification of paranoia has not only complicated the inclusion and exclusion criteria of study participants but also hindered the progression in understanding the etiology and treatment of different types of delusions.

Since then, the generally accepted definition of delusion consists of multiple dimensions (e.g.,

conviction of, preoccupation with, and distress caused by the threats reported by individuals) and suggests that increased endorsements across these dimensions make agreement over the presence of a delusion more likely (Freeman and Garety 2000). Persecutory delusions are an individual's beliefs that harm is occurring or going to occur and that the persecutor has the intention to cause harm. Specifically, the harm must cause preoccupying distress specific to the individual (not to friends or family), the individual must believe that the persecutor will harm them at present or in the future, and the belief must be distinct from delusions of reference and anxiety. The paradigm shift in assessment to a single-symptom multidimensional approach has paved the way for interventions in delusions.

Dimensionality

One of the most widely replicated findings has been that paranoia exists on a continuum – from clinical persecutory delusions to mild excessive suspicions – in the general population (i.e., that it is a quantitative trait). In studies of the community population, mainly conducted in Western populations, 10–15% experience regular paranoid thoughts, with up to 3% of respondents reporting delusions of clinical levels yet are undiagnosed. Comparable but slightly lower rates have been found in non-Western populations (i.e., China).

Another commonly replicated finding in cohort studies and studies of young adults has been that many individuals report a few symptoms and a few individuals report many symptoms. Corresponding to common mental health disorders (i.e., anxiety and depression), the continuous distribution of paranoia supports the idea that there are no distinct subgroups of paranoid individuals (e.g., those suffering from nonclinical vs. clinical paranoia). These findings suggest that paranoid ideations are common and regularly occur in adults and raise the question of whether paranoia or attenuate forms of suspiciousness exist earlier in development.

In adolescence, psychotic-like experiences (e.g., auditory hallucinations, paranoia) have

been shown to predict later psychosis. A recent systematic review of 19 studies of young people showed that psychotic-like symptoms were reported more frequently in middle childhood than in adolescence (17% of 9- to 12-year-olds compared with 7.5% of 13- to 18-year-olds). Similarly striking reports of psychotic symptoms were evident in two further surveys of children, with 30–35% endorsing “somewhat true” and “certainly true” for a single-item measure of paranoia (“Have you ever thought that you were being followed or spied upon?”). These epidemiological studies typically used brief single-item assessments that preclude dimensional assessments of paranoia, but the evidence on balance indicate that younger children, boys and girls, may be more likely than older children to report feelings of suspiciousness.

Correlates of Paranoia

In adults, clinical and nonclinical paranoia has been associated with the same risk factors, and the presence of nonclinical symptoms raises the odds of a subsequent diagnosis of psychotic disorder. High levels of paranoia have been associated with social anxiety, low self-esteem, depression, insomnia, worry, externalizing problems, poor emotion recognition (especially for anger), neuroticism, abuse of cannabis and alcohol, low socioeconomic status, urban residency, and experiences of victimization. The high comorbidity between paranoia and negative psychosocial factors is a cause of concern for clinicians and has received much attention from research into the causes of paranoia.

Assessments

Traditionally, adult dimensional assessments of paranoid thoughts have largely consisted of paper-pencil/online Likert self-reports to measure the frequency of (e.g., this week, last month), level of conviction of, preoccupation with, and distress caused by persecutory

thoughts. Child-appropriate self-report measures of suspiciousness have recently been developed (e.g., Social Mistrust Scale). Clinical interviews (e.g., the Psychotic Symptom Rating Scales-Delusions Subscale (PSYRATS)) have also been used to assess patients along the same dimensions of severity, wherein a higher score denotes more paranoia. In most cases, questionnaires and clinical interviews have been used simultaneously and are moderately correlated ($r = 0.43$).

One prevailing difficulty in paranoia research is determining whether the ideation is unfounded; until recently, this question had remained unresolved. New moment-to-moment virtual reality (VR) paradigms where participants interact with benign avatars in controlled virtual environments and are assessed by pre- and post-experiment psychosocial questionnaires and interviews have addressed this gap. Since the VR environments are programmed to be neutral, any paranoid responses are recorded as unfounded. Empirical studies to date begin to support VR exposure as an effective research and clinical tool.

Developmental Gap

Given the evidence that paranoid ideations are more common than previously thought and exist in nonclinical adults, and that early symptoms increase the odds for later psychosis, research into younger populations looking at childhood suspiciousness may inform the etiology and our theoretical understanding of paranoia. One study to date has extended adult models of paranoia to examine the prevalence, structure, correlates, and nature of paranoia in children and adolescents and attempted to offer explanations for these experiences and where they occur (Wong et al. 2014). In a study of 2,500 8- to 14-year-olds from the UK and Hong Kong, 3.4–8.5% of children (boys and girls) regularly self-reported suspiciousness at home, school, and generally as indexed by the Social Mistrust Scale. Compared to trusting peers, mistrustful children reported elevated rates of anxiety, low self-esteem,

aggression, and callous-unemotional traits. Younger children reported more suspicions than older children. As with adults, these findings indicate that mistrust may exist as a stable ($r = 0.80$) quantitative trait in children and that it is associated with elevated risks of concurrent internalizing and externalizing problems. It is conceivable that developmental research on childhood suspiciousness could play a crucial part in advancing overall mental health prevention strategies.

Causes

The causes of paranoia are complex. Studies of adult clinical patients with persecutory delusions and young adults in the community, and more recent evidence from developmental studies of children and adolescents, have found both social and cognitive factors to provide a strong theoretical understanding of paranoia.

The *threat anticipation model* (Freeman et al. 2002) suggests that the interplay between an individual's existing levels of emotion (e.g., anxiety, self-belief, and cultural schemas) and reasoning (e.g., confirmation bias and reasoning bias) results in persecutory threat beliefs. In this model, major stressors, insomnia, and drug abuse can "trigger" both abnormal internal experiences (cognitive biases) and external events (discordant negative social experiences), which may fuel other behaviors, such as rumination and withdrawal from social interactions.

Studies of patients with delusions support this framework. Patients with persecutory delusions are more likely to respond in a biased manner, or "jump to conclusions" and report making more confident decisions based on limited information, show cognitive deficits in theory of mind, and attribute hostile intent in others compared to non-delusional patients. VR studies have similarly linked individuals with persecutory thoughts and higher interpersonal sensitivity, increased levels of anxiety, emotional disturbances, unusual experiences and likelihood of identifying hostility in neutral environments.

Clinical and nonclinical samples of adults with high persecutory delusions show this reasoning bias, with an increased risk of developing psychosis. Although preliminary correlational studies in community young children support these findings, more studies are needed to clarify the relationships developmentally.

Implicit in the affective account is the *hierarchy of paranoia* (Freeman et al. 2005), which states that negative feelings and thinking about the self can lead to feelings of vulnerability (i.e., low self-esteem and depression). Among these negative self-concepts, paranoia is more likely to flourish and that more implausible, unusual paranoid thoughts build on simpler, more common social-evaluative concerns associated with anxiety and depression. For instance, "There is a conspiracy by the government to have me attacked" is considered more severe than "People are staring at me to upset me." This model supports the continuum of paranoia from clinical to nonclinical populations with varying levels of symptom severity. Longitudinal studies of patients demonstrate that multiple factors interact to explain paranoia. For instance, negative cognition and depressed mood may maintain and predict later paranoid symptoms, and the reverse is not true, suggesting that treatment targeting negative cognition could mitigate this relationship.

Contrastingly, another theoretical explanation for paranoia is offered by the *attribution-self-representation cycle* (Bentall et al. 1994), which states that an individual's attribution to agents and events is intricately linked with their representations of the self, which, in turn, shape future attributions. Individuals construct beliefs in order to cope with discrepancies between how others view them and how they would like to be viewed. Studies of attributional style have shown that individuals with low self-esteem tend to make internal attributions for negative events, whereas individuals with high self-esteem and low-depressive symptoms tend to attribute success to internal factors and negative events to external causes. Whether attributional style functions to defend against low self-esteem

or whether it is specific to persecutory delusions or other types of delusions has been debated. Studies have shown that improvements to persecutory delusions through therapy demonstrate unchanged levels of depression and self-esteem, therefore, it suggests that persecutory delusions do not serve the function of defense but perhaps a more general reflection of the individual's emotions.

Controlling for comorbid hallucinations, a recent large-scale adult psychiatry survey showed that early childhood adversity (e.g., physical/sexual abuse, victimization, etc.) was implicated with later symptoms of hallucinations and paranoia. Early childhood adversity may predispose an individual to paranoid thinking – a qualitative trait that can initially seem “rational” but perhaps develop into an unfounded belief.

Treatments

Cognitive behavioral therapy (CBT), typically provided weekly for at least 6 months, has been shown to be effective for patients with delusions and hallucinations. Approximately 20% of patients with persistent delusions respond well to the treatment, and another 40% show improvements. Although CBT may be less effective for individuals distressed by their paranoid experiences, recovery time has been shortened in those with acute psychosis, and relapse rates reduced in few cases. Patients with cognitive deficits and the lack of insight into their illness are not precluded from CBT treatment. Recent randomized controlled experimental studies have demonstrated that patients may relearn “fearful” situations under the neutral conditions of a virtual social environment (Freeman et al. 2016). Compared to patients with mere VR exposure, patients in the VR cognitive therapy environment who were taught strategies to challenge their fears in benign social environments reported 22% and 19.6% reduction in delusions of conviction and real-world distress, respectively. Cognitive therapy through virtual reality paradigms may prove effective in treating delusions.

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William B. Swann is a professor of social and personality psychology at the University of Texas at Austin. He is best known for his work on self-verification, identity negotiation, and identity fusion, but has also done research on group processes, close relationships, social cognition, accuracy in person perception, depression, and personality processes.

Early Life and Educational Background

Swann was born on February 7, 1952. He received his undergraduate degree in Psychology in 1974 from Gettysburg College and his Ph.D. in 1978 from the University of Minnesota. His dissertation focused on the self and was conducted under the supervision of Mark Snyder.

Professional Career

Swann took a position at the University of Texas at Austin in 1978. He has remained there for most of his career, with the exception of Visiting Fellow positions at Princeton University (1985–1985) and Stanford University CASBS (1988–1989). He has authored more than 150 publications during his career which have appeared in outlets such as *Proceedings of the National Academy of Sciences*, *Psychological Review*, *Behavioral and Brain Sciences*, *Psychological Science*, *Current Directions in Psychological Science*, *Journal of Personality and Social Psychology*, *Child Development*, *Archives of Sexual Behavior*, *Personality and Social Psychology Bulletin*, and others. This work has been cited more than 24,000 times with an h-index of 69.

He has received several awards. He has been elected Fellow of American Psychological Association, Society of Experimental Social Psychology, American Psychological Society, Society for Personality and Social Psychology, and the International Society of Self and Identity. He also served as the president of the Society of Experimental Social Psychology. He received two successive Research Scientist Development Awards from the National Institute of Mental Health (1984–1989; 1989–1994). He was also awarded a McArthur fellowship at Stanford's Center for Advanced Study in the Behavioral Sciences. Finally, he received the Distinguished Lifetime Career Award awarded by the International Society for Self and Identity in 2016.

Swann's research has been supported by grants from several agencies in the United States, Europe, and Australia, including the National Institute of Mental Health, National Science

Foundation, National Institute on Drug Abuse, Spanish Ministry of Science and Innovation, Spanish Ministry of Economy and Competitiveness, Economic and Social Research Council Ritual, and the Australian Research Council.

Research Interests

Swann is best known for developing self-verification theory, which examines the nature and consequences of people's desire to be known and understood by others. The theory assumes that once people develop firmly held beliefs about themselves, they come to prefer that others see them as they see themselves – even if their self-views are negative. For example, married people with negative self-views are more committed to the relationship if their spouse views them negatively. In fact, if such individuals are viewed positively, they are more prone to divorce their spouses! The desire for self-verification appears to be a basic human motive in that it shapes the behavior of people beginning in childhood in cultures throughout the world. Recent research has applied this theory to understanding phenomena ranging from reactions to procedural justice in organizations, the productivity of members of work groups and teams, and extreme group behavior, such as fighting for one's group. In each instance, people display a preference for self-confirming evaluations, even if it means embracing negative evaluations or endorsing life-threatening behaviors. In addition, the cross cultural universality of self-verification strivings has been examined.

Swann has also contributed identity negotiation theory to the psychological literature. Identity negotiation refers to the processes whereby people in relationships reach agreements regarding "who is who." Once reached, these agreements govern the way people relate to one another, as they establish what people expect of one another. In this way, identity negotiation processes provide the interpersonal "glue" that holds relationships together. In recent years, Swann has become interested in how identity

negotiation processes unfold in groups, especially in organizational settings. Finally, Swann has examined the nature of accuracy in person perception, advancing the idea that people are often motivated to form perceptions that predict the behaviors of others within local contexts rather than cross situationally.

Swann's most recent emphasis has been on identity fusion theory. People become fused with a group when they feel a visceral sense of connectedness with a group, so strong that the borders between personal and social identity become porous and permeable. Identity fusion is important and interesting because fused persons express willingness to engage in extraordinary behaviors in the service of their group membership. For example, in a large international study of participants from six continents, those who were strongly fused with their country were especially willing to endorse fighting and dying for their country. Further, in a sample of transsexuals, those who were fused with their desired sex were more likely to endure painful surgery to achieve the physical characteristics of their desired sex. In one set of studies involving some interpersonal variations of the trolley dilemma, fused persons endorsed jumping to their deaths in front of runaway trolley to save the lives of their fellow countrymen. In a later set of studies that featured different trolley dilemmas, we learned that strongly fused persons experienced an elevated level of emotional engagement with the group and this emotional connection overrode their desire for self-preservation and compelled them to translate their moral beliefs into self-sacrificial behavior. The implications of identity fusion for reactions to ostracism from the group have also been explored, as well as the effects of physiological arousal on pro-group behavior, and the relation of fusion with one's party to predictions about one's life quality after the 2008 elections. Recently, Swann and his collaborators conducted a study of rebels in the 2011 Libyan revolution against Gadaffi. The work showed that relative to militia-men who provided logistical support, those who chose to engage in frontline combat reported feeling more fused to their milita-

than to their own families. Apparently, identity fusion motivates people to place their life on the line in actual combat situations.

Swann has developed several measures of individual differences, including measures of self-concept, self-esteem, verbal inhibition, and most recently, pictorial and verbal measures of identity fusion.

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Symbolic Interactionism

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Synonyms

[Agency](#); [Interactive determinism](#); [Micro-sociology](#); [Pragmatism](#); [Social psychology](#); [Symbolization](#)

Definition and Introduction

Symbolic interactionism (SI) is an American sociological theoretical framework and research tradition that focuses on small-scale interactions between individuals. SI emphasizes the micro-processes through which individuals construct meaning, identity, and collective actions. As a scholarly tradition, SI asserts that meaning is not inherent and is rather constructed through multiple interactions in certain times and contexts. The symbolic interactionist framework posits that aspects of the surrounding social world – objects, ideas, events, people, etc. – impact and change humans, and humans in turn assign meaning to

these interactions in order to determine how to act when in those specific environments, confronted with particular stimuli, or encountering distinctive properties of the social world. This framework focuses on explaining how (1) humans act and interact based on shared meaning, (2) meaning comes from multiple repeated interactions, and (3) meaning is interpreted by individuals. SI is a theory of social psychology that is utilized most effectively in explaining how individuals create and modify their identities and behavior and contributes to understandings of how aspects of society can change as they are created and recreated. It asserts that shared social meanings are embedded in place and time and are socially constructed through repeated interactions.

SI is one of three domains of the larger field of social psychology (House 1977). The other two domains are psychological social psychology and psychological sociology (also known as social structure and personality). There is a disconnect within the field of social psychology such that psychological and sociological social psychologists often operate without awareness of the other. As clear example, a recent publication in the *Journal of Experimental Social Psychology* uses many symbolic interactionist concepts but does not name those theories, approaches, or scholars (Adam and Galinsky 2012). This issue is propagated by the fact that both sociology departments and psychology departments train social psychologists, with few departments that weave together the two approaches. For this reason, symbolic interactionism, an outgrowth of the sociological social psychology tradition, may not be named as often as is merited, despite being heavily utilized (even if unnamed) in much psychological social psychology research. The differences between self (identity) and personality (behavior, mental structure) reflect the divide between psychological social psychology and sociological social psychology.

Formulation of Theory

Charles Horton Cooley and George Herbert Mead, two important sociologists of the late

nineteenth and early twentieth centuries, are both credited with having initially constructed the framework of symbolic interactionism. A founding member of the American Sociological Society, Cooley famously developed the concept of the “Looking Glass Self,” a concept wherein an individual’s self grows out of interpersonal interactions and the perceived perceptions of others towards one’s self (1902). Just as in the framework of symbolic interactionism, Cooley’s “Looking Glass Self” posits that interactions with new social stimuli lead to refined and differently developed reactions and awareness. Cooley established the foundation for SI by establishing selfhood as malleable and developable throughout time and different contexts. In establishing his “Looking Glass Self,” Cooley would often build on the theoretical foundations of William James, a psychologist and creator of the “social self” theory. James was one of the first theorists to explicitly situate the social self as a direct result of relationships with other people and provided the loose framework which others then expanded to establish the foundation of symbolic interactionism. A close friend and colleague of James, John Dewey also applied these theories to multiple fields of study, expanding their breadth of focus and applying the concepts of selfhood to philosophy, psychology, and education (Schellenberg 1990). Both James and Dewey (along with Charles Sanders Peirce), were initially working within the distinctive and still important approach of the philosophical framework of pragmatism. Pragmatism combined the American emphasis on practical action with German experimentalism-cultural worlds-meaning and informed the thinking of early contributors to interactionism.

George Herbert Mead is mostly widely credited with first formulating the theory that would later come to be known as symbolic interactionism – his Theory of Social Self in which selfhood emerges from multiple social interactions over time (1967). He posited two sides to the self: an impulse-oriented “I” side that acts in accordance with what the social “me” side has learned, and, an others-oriented “me” side that has internalized the behaviors, expectations,

and attitudes of others. Both the “I” and the “me” correspondently act to socially construct the individual and social world. Mead believed that through the interplay of “I” and “me,” selfhood is constructed through social processes, as are the meanings that people assign to specific situations, interactions, objects, and other social phenomena.

Herbert Blumer continued Mead’s work and coined the term “symbolic interactionism.” While the practice and teaching of SI declined after Mead’s death, Blumer is credited with promoting its resurgence in the fields of sociology and social psychology in the 1980s. Blumer believed that human engagement in social interactions is what creates society itself. Blumer’s approach moves forward the *I* aspect of Mead’s approach in which the *I* negotiates meaning and directs action. Blumer’s style is referred to as the “Chicago School” branch of symbolic interactionism. Also a member of the collective of largely qualitative- and urban-focused social researchers associated with the University of Chicago during the early twentieth century, sociologist W. I. Thomas also played a role in the development of symbolic interactionism. Thomas’s concept of “definition of the situation” refers to how a commonly shared understanding of how people are supposed to react informs people’s roles and interactions. This “definition of the situation” concept is a foundational piece in defining the importance of social expectations and further creating the framework of SI as a whole. Another of his important contributions came to be known as the Thomas theorem, “If men [sic] define situations as real, they are real in their consequences” (1928: 572). That conceptualization later led to the foundation of Merton’s (1948) notion of a *self-fulfilling prophecy*. Manford Kuhn and Carl Couch also developed their own approach to SI which emphasized positivist empiricism and quantitative experimental methodology; this was referred to as the “Iowa School.” Kuhn’s work represents more of the “me” that Mead described and moved forward a branch of SI emphasizing self as consolidated, socially defined, and objectified.

Sociologist Erving Goffman’s 1959 text, *The Presentation on Self in Everyday Life*, is an

exemplar of the symbolic interactionist tradition (Goffman, however, preferred to think of himself as equally influenced by the work of W. Lloyd Warner and the anthropological/cultural tradition of meaning-making, especially through his work on frame analysis). In his earliest work, he focused on the individual’s role in meaning making, as exemplified in his 1959 text that offered his dramaturgical approach in which individuals are actors with frontstage and backstage behaviors and the role of impression management in motivating human behavior. The heart of the dramaturgical approach and the work of Goffman is the principle that we try to elicit what we want from others by getting them to define the situation in a certain way so that they act in accordance with our plan and desires. Impression management became an area of focus within the symbolic interactionist tradition, and in the mid-1980s with widely read publications such as *The Managed Heart* (by sociologist Arlie Russell Hochschild 1983) which described the emotional labor demanded by various occupations, gained recognition beyond sociology and across disciplinary lines. The applications of Goffman’s dramaturgical approach have been great, providing scholars across disciplines, a nuanced understanding of how our roles and statuses shape our performance. This work has evolved in many fruitful directions, with concepts such as authenticity (Erickson 1995) mental health stigmas (Roe et al. 2010) and impression management (Tedeschi 2013) as examples of contemporary applications, demonstrating the continued relevance of the symbolic interactionist tradition. Around the same time of this processual focus, some scholars working within the symbolic interactionist tradition took a more social structural approach, emphasizing the impact social structures have on interactions, the ways learned social roles influence people to create and uphold those social structures, and the utilization of both qualitative and quantitative methods to empirically observe these social interactions. Often referred to as the “Indiana School” and led by the work of Sheldon Stryker (1980), this branch of SI has stayed relevant through the work of others and reformulations like that offered by Smith-Lovin (2007).

Three Main Tenets

SI is rooted in three main assertions. The first is that humans' actions are based on the meanings they have given something. Blumer contended that individuals do not react to a specific action itself but rather to the meaning assigned to that particular action. The second main assertion is that meaning is attributed to things based on social interactions. Different people will assign different meanings to objects, events, or other phenomena based on their lived experiences surrounding that particular thing. Finally, SI contends that the meaning given to something is open to interpretation, not permanent, and can change due to occurrences in everyday life. Succinctly, actions are laden with meaning and humans act in accordance with those assigned meanings.

Past Development and Current Utilization of Theory

Despite its decline in favor during research conducted in the twentieth century, SI has a strong presence in contemporary social science literature, particularly within social psychology. SI serves as a primary framework in research on a multitude of topics ranging from inequality and family dynamics to emotions and meaning-making. A search on a popular scholarly platform for "symbolic interactionism" now yields about 120,000 results. A professional society is also dedicated to SI – the Society for the Study of Symbolic Interactionism – that publishes its own journal in association with Wiley-Blackwell entitled *Symbolic Interaction*.

The primary methodologies utilized in studies involving SI have been almost exclusively qualitative. While traditionally the framework has been viewed as a sustaining foundation of qualitative research, it has also begun to be considered as the basis for quantitative and multiple-method studies. In addition to lines of individual pursuit, entire books, volumes, and readers exist on symbolic interactionism, the first of which was published as early as 1967 (Manis and Meltzer 1967).

Prominence Within Social Psychology

SI has come under criticism for the emphasis it places on observing smaller-scale, micro-sociological processes, consensus, and the role of individuals in meaning-making. As members of a field that frequently examines broader social interactions and larger-scale explanations for social behaviors, sociologists may critique SI for being a principle employed when examining individual interactions within society. However, these critiques often come from sociologists seeking to examine larger, macroscale phenomena and not the microprocesses by which these phenomena come about or are interpreted. Criticisms of SI also assert that it does not adequately address status and power disparities (although Goffman did this in his later works, *Asylums*, 1961, and *Stigma*, 1963), and scholars such as Cecilia Ridgeway and Lynn Smith-Lovin have addressed some of these issues in examinations of gender roles and the perpetuation of social inequalities (1999). Other scholars, such as Hochschild, have performed work that tries to explore emotions as meaning, in a way that internalizes SI. That work is in response to criticisms of SI as only a calculation of propriety and advantage and as being too rational. Others (c.f., Thomas Scheff, Thomas Henricks) have tried to show how social experiences endure (often for a lifetime) in the person. The criticisms of SI have fueled its sustained relevancy. Gary Alan Fine, for example, had been developing the meaning-worlds angle in his claims of different kinds of levels of self/identity that exist and intersect (see Fine 1983, for example). Some scholars use a postmodern orientation to describe plural, situational selves in contrast to the more consolidated, unified, and perhaps even authentic self. Other scholars working in the symbolic interactionist tradition have tried to connect microprocesses to more macrostructural issues (c.f., Randall Collins' 2005 work in *Interaction Ritual Chains*).

Often considered one of the dominant and prolific sociological variants of social psychology, SI became a distinct outgrowth of and has established itself as a major underpinning within the field of sociological social psychology. As the

subspecialties of sociological social psychology and psychological social psychology tend to operate disparately (in methodology, theory, and through a lack of ideological interchange), these multiple subdisciplines may in fact utilize the symbolic interactionist framework without fully acknowledging their work as doing such (see Cook et al. 1995 for more about social psychology as a field). While perhaps not the most relevant framework to utilize when explaining large-scale social structures such as education or law, SI has played a dynamic role in the field of social psychology. SI is a distinct outgrowth of sociological social psychology, being itself a distinctly sociological contribution to the field of social psychology. SI examines society on a small scale and elevates the individual to the level of having same importance as the society as a whole by studying, framing, and explaining small interactions between individuals. When compared to other theoretical frameworks for studying social life, SI allows social scientists, social psychologists in particular, a structure within which to explore how an individual would view and react to a situation as opposed to how would a society as an entire collective may view the same situation.

Conclusion

In his seminal piece *Symbolic Interactionism: Perspective and Method*, Herbert Blumer articulated the most enduring definition of symbolic interactionism, explaining that “. . .people act toward things based on the meaning those things have for them, and these meanings are derived from social interaction and modified through interpretation.” (Blumer 1969: 2) The framework of SI continues to be utilized across multiple subdisciplines and in many research endeavors in contemporary social research.

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Symbolization

- ▶ Condensation
- ▶ Symbolic Interactionism

Sympathy

- ▶ [Compassion](#)
- ▶ [Identification](#)

Symptom Checklist-90-Revised

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Synonyms

[SCL-90-R](#)

Definition

A 90-item self-report instrument used to measure psychological symptom patterns of community, medical, and psychiatric respondents.

Introduction

The Symptom Checklist-90-Revised (SCL-90-R; Derogatis 1994) is a widely used, self-report, multi-scale measure of current psychopathological symptomatology (Prunas et al. 2012). Using a five-point scale (0–4) ranging from “not at all” to “extremely,” each item assesses the severity of distress the respondent experienced within the past 7 days (Bergly et al. 2014). The SCL-90-R is composed of three global indices of distress: Global Severity Index (GSI), Positive Symptom Distress Index (PSDI), and Positive Symptom Total (PST). Additionally, the SCL-90-R consists of nine primary symptom dimensions: somatization (SOM), obsessive-compulsive (O-C), interpersonal sensitivity (I-S), depression (DEP), anxiety (ANX), hostility (HOS), phobic anxiety

(PHOB), paranoid ideation (PAR), and psychoticism (PSY).

History

The Symptom Checklist-90-Revised can be traced back to the Cornell Medical Index (CMI) developed in the 1940s (Prunas et al. 2012). The Hopkins System Checklist (HSCL) that arose from the CMI was considered acceptable (McNair 1974) but possessed several problematic limitations: it was developed for research purposes and never formally normed; it was insufficient and incomplete in assessing psychopathology and psychological distress; it possessed an unsatisfactory factor structure; and it did not offer a clinical observer scale (Derogatis 1994).

To address these limitations, a systematic psychometric development program was undertaken that ultimately resulted in the SCL-90-R. In addition to the five primary HSCL symptom dimensions, four new dimensions were added which resulted in 45 new questions. Distress assessment was extended to a five-point scale. In addition to seven items added to assist in nosologic discrimination, three global measures assessing distress were established. Instructive and administrative formats were also revised (Derogatis 1994).

SCL-90-R Administration Description

This inventory is designed to reflect current (within the last 7 days) psychological symptom patterns of community, medical, and psychiatric samples not presently patients. Norms are available for adolescents as young as 13 as long as a test administrator is available to interpret difficult questions. The SCL-90-R is not a direct measure of personality. Indirectly, certain personality disorders may manifest as characteristic profiles on the primary symptom dimensions. General vocabulary of the instrument was kept as basic as possible resulting in a sixth-grade reading level requirement. The measure is available in paper-and-pencil or online format taking approximately

12–15 minutes to complete. The SCL-90-R can be used as a one-time assessment or repeatedly to evaluate treatment outcomes. This measure is not recommended for individuals who are considered poor candidates for self-report inventories: those with intellectual disabilities, actively psychotic, individuals experiencing delirium, and those motivated to minimize or maximize distress (Derogatis 1994).

Global Indices

Global Severity Index

The number of symptoms and perceived intensity of distress is combined to serve as a single numerical representation of present severity of the disorder.

Positive Symptom Distress Index

The index evaluates whether the respondent amplified or mitigated reported symptomatic distress. The PSDI can ultimately be used to assess symptom intensity by reflecting average levels of distress reported.

Positive Symptom Total

Regardless of level of distress, this index reflects a total of symptoms reported and can be used to convey symptom extensiveness.

Primary Dimensions

Somatization

The somatization dimension reflects distress stemming from perceptions of bodily dysfunction, especially systems with strong autonomic processes such as the gastrointestinal or cardiovascular symptoms that may be related to somatic counterparts of anxiety.

Obsessive-Compulsive

The obsessive-compulsive dimension, related to obsessive-compulsive disorder, assesses thoughts, behaviors, and impulses that are unremitting, irresistible, ego alien, or undesirable in nature, as well as deficits in more general cognitive functioning.

Interpersonal Sensitivity

Especially in comparison to others, the interpersonal sensitivity dimension assesses feelings of inadequacy and inferiority usually manifested in self-deprecation, marked discomfort, and self-doubt during social exchanges. Additionally, those with higher scores on this measure tend to report negative expectations of social interactions with others and acute self-consciousness.

Depression

The depression dimension assesses symptoms of clinical depression such as symptoms related to dysphonic mood and affect: anhedonia, lack of motivation, loss of energy, feelings of hopelessness, suicide ideation, as well as other somatic and cognitive associated features of depression.

Anxiety

In addition to characteristic signs of anxiety – nervousness, tension, trembling, panic attacks, apprehension, dread, and feelings of terror – somatic correlates of anxiety are also included as dimensional components.

Hostility

The hostility dimension assesses the negative affective state of anger expressed through thoughts, feelings, and actions. Aggression, rage, resentment, and irritability are a few of the qualities evaluated.

Phobic Anxiety

Phobic anxiety is a persistent fear response that is disproportionate or irrational to the stimulus and produces avoidance or escape behaviors. This dimension focuses on the characteristic symptoms and disruptive manifestations of phobic behavior such as avoidance and feelings of fear.

Paranoid Ideation

The paranoid ideation dimension is intended to measure a disordered mode of thinking through central characteristics such as projective thought, grandiosity, hostility, suspiciousness, centrality, fear of loss of autonomy, and delusions.

Psychoticism

The psychoticism dimension is designed to assess along a continuum of mild interpersonal

alienation such as withdrawn, isolated, schizoid lifestyles to severe psychosis such as hallucinations and thought control and other characteristic symptoms of schizophrenia.

Additional Items

There are seven items – poor appetite, trouble falling asleep, thoughts of death, overeating, awakening early in the morning, restless or disturbed sleep, and feelings of guilt – that do not load on a single factor but provide useful interpretative information given certain contextual factors. The items are included because of their clinical significance.

Reliability and Validity

The reliability or consistency of the SCL-90-R is assessed through internal consistency and test-retest coefficients for the three indices and nine dimensions. Two studies were used to examine the alpha coefficients. Derogatis et al. (1976) used 209 “symptomatic volunteers.” Horowitz et al. (1988) utilized 103 psychiatric outpatients. Correlations ranged from .77 to .90 across both studies indicating satisfactory internal consistency (Derogatis 1994). Test-retest reliability or consistency over time was assessed using 94 psychiatric patients with a 1-week retest. Coefficients ranged from .78 to .90. Horowitz et al. (1988) used a 10-week test-retest period, and coefficients ranged from .68 to .83 demonstrating satisfactory reliability.

The Symptom Checklist-90-R Administration, Scoring, and Procedures Manual (Derogatis 1994) outline several key studies that have significantly contributed to the validation of the SCL-90-R (please refer for a more detailed explanation). According to the manual, the SCL-90-R has accepted internal structure, factorial invariance, and convergent-divergent validity.

Scoring and Interpretation

The SCL-90-R measure was developed to provide psychopathology symptom data at the global, dimensional, and distinct symptom level. Results for the dimensions and global indices are reported

in T scores, and available norms include adolescent nonpatients, adult nonpatients, psychiatric outpatients, and psychiatric inpatients. Formal validity scales are not included in the SCL-90-R. However, scores on the PST and PSDI may help identify individuals who are exhibiting various response styles: faking good, faking bad, augmenting, or repressing (Derogatis 1994).

Controversies

In comparison to the original 9-factor solution, many studies have reported inconsistent and controversial dimensionality of the SCL-90-R (Grande et al. 2014; Paap et al. 2011, 2012; Urban et al. 2014). Paap et al. (2012) attempted to elucidate the inconsistencies. Results indicated that the dimensional structure was a function of the level of psychological distress as measured by the GSI. In samples with high levels of distress, the multidimensionality was supported. However, in samples with low levels of distress, unidimensionality or one strong factor structure was supported. Interestingly, in samples that reported an intermediate level of distress, factor invariance based on gender was found. However, replication and further research is needed.

Summary

The Symptom Checklist-90-Revised is a quick, widely used, self-report measure of current, clinically relevant symptomatology. Despite controversies regarding the instrument’s psychometrics, the revised version has demonstrated adequate reliability and validity. It can be used as an initial screener for psychological or psychiatric problems or repeatedly to evaluate treatment progress and outcomes.

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Synaptic Plasticity

► Molecular Cellular Cognition

Synchronicity

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Synchronicity is defined as a coincidence between an inner psychological state or event and an

external or objective event. There is no causal connection between the two events and no causal explanation can be given, but it seems, at least for the experiencing individual, to be meaningful. Examples of synchronicity include precognitive dreams, which are dreams that later becomes true, and the experience that the death of a close relative is somehow “felt” despite great physical distance.

The term “synchronicity” was coined by the Swiss psychiatrist and psychoanalyst Carl Gustav Jung as a product of his exchange with the quantum physicist and Nobel laureate Wolfgang Pauli, also known as the Pauli-Jung-dialogue (Gieser 2005). Jung published his second work on synchronicity in 1952 (“Synchronicity as a principle of noncausal connections”) together with a work by Pauli on Kepler in a joint volume after his first publication on the topic in 1951 (“On Synchronicity”). Both Jung and Pauli struggled over decades to form a theoretical model for explaining synchronicity by applying analogies from quantum theory to psychology (see Gieser 2005 for a detailed discussion).

In his 1951 publication where he introduced the term synchronicity, Jung gave the classical example for a case of synchronicity, placed in the context of psychotherapy. A female patient of Jung’s presented a dream in a therapy session in which she received a golden scarabaeus as a present. While telling the dream, she and Jung heard a noise tapping at the window. When Jung stood up and opened the window, a rose beetle, which is the closest equivalent of a scarabaeus occurring in Europe, flew into the room. Jung caught the beetle and presented it to his patient with the words, “here is your scarabaeus.” The patient was deeply moved by this experience. Before this event, progress in therapy had been blocked by the overly rational attitude of the patient, denying any kind of emotional involvement. Through this deeply moving experience, it was possible for the patient to change her inflexible identification with a totally rational orientation, and a process of psychological transformation could start.

Jung made a strong connection between the concept of synchronicity and his ideas about the individuation process. He conceptualized

individuation as a spontaneous process that emerges from the unconscious psyche, moving the individual towards his or her potential wholeness. In this process, the unconscious confronts the ego with symbols, for example, through dreams, to foster a constructive dialogue between the conscious and the unconscious. This comes about through the constellation of collective unconscious/archetypal material. Archetypes, which structure the unconscious, are organized in opposites, which links them to the concept of complementarity in quantum theory. This structure of archetypes plays a central role in Jung's theory of the process of psychological transformation: neurosis in Jung's view is considered as a strong one-sidedness in the attitude of consciousness, e.g., in the above-mentioned case the overly rational attitude of Jung's patient; in such a situation, one would expect that the unconscious will present (in the form of symbols, e.g., dream images) the other pole of the archetypal pair of opposites to support a transformative process moving the personality towards its potential wholeness.

In Jungian theory, the analytic situation and its special therapeutic relationship is seen as a field where this internal dialogue is promoted, and through the spontaneous production of symbols from the unconscious, the probability for synchronistic events to appear is heightened. Usually archetypal elements appearing in the form of symbols need to be interpreted in the process of psychotherapy. Synchronicities can be seen as a special case of the appearance of archetypal elements, since they appear not only in the inner world, but they link inner and outer world.

As Jung pointed out, there is no causal connection between the inner situation and the outer event, but the impression by the experiencing person of a meaningful link between the two events is the connecting factor. Jung argued that there is a unity of inner and outer reality which he called *unus mundus*, in contrast to the deterministic model of Western epistemology proclaimed since the philosophy of Descartes with its absolute distinction between *res cogitans* (mental entities) and *res extensa* (physical entities). He hoped for an explanatory model to be found in the new

insights of quantum physics in his time, which was also the reason why he took up the dialogue with Pauli.

Quantum physics actually proclaims a uniform model of reality known today as the Standard Model of elementary particles. In this model, phenomena such as entanglement and non-locality have been empirically investigated and can be seen as analogies to the concept of synchronicity. In entanglement, two particles form a complementarity, even though they are located a great distance from each other. Even though there is no causal connection between them and no information is exchanged between them, they react synchronistically as if they still were part of one system. Recently, these concepts from quantum physics have been transferred to the field of psychology and social relationships, forming what is known as Weak or Generalized Quantum Theory (Atmanspacher et al. 2002; von Loucadou et al. 2007).

The attempt to conduct research on the concept of synchronicity, however, is confronted with the problem that chance can never be excluded by certainty. This is the case because the base rate for the occurrence of single events (e.g., dreaming of a person in the night and meeting exactly that person the next day) is unknown and not computable. Also, it can never be excluded with certainty that there is a causal connection between the two events which could be just too complex to be identified. This makes it difficult, if not impossible, to investigate synchronicity in an experimental study design.

The following studies have nevertheless attempted to apply a systematic scientific methodology. Hanson and Klimo (1998) conducted a systematic analysis of reports on coincidences with negative consequences; 56% of the subjects interviewed reported synchronistic events. Meyer (1998) investigated the correlation between the proneness to experiencing synchronistic events and personality factors; he found a strong correlation in the sense that people with introverted feeling types have more synchronistic experiences. He could also show that synchronistic experiences appear especially in stressful life situations. There is also a large

number of single case reports (e.g., Hopcke 2009) some of which took great efforts to validate the synchronistic experience, e.g., showing that a precognitive dream later became true (Bender 1966).

Population studies show that experiencing synchronistic events is a widespread phenomenon (Coleman et al. 2009). In a representative panel investigating the frequency of exceptional experiences in the German population, it was found that 36.7% had dreams that later became true and 18.7% experienced extrasensory perceptions in correlation with death or crises (Schmied-Knittel and Schetsche 2003). In another nationwide representative telephone panel in Germany with 1510 participants, 40.3% stated that they had at least once experienced a meaningful coincidence which they could not explain (Deflorin 2003). These empirical findings point to the fact that the occurrence of synchronistic events tends to be connected to existential experiences, especially death, existential crises, and major life changes such as meeting a spouse. The most common form of synchronistic experiences are dreams and visions (47.9%) followed by premonition's (26.7%) (Sannwald 1959). Precognitive dreams are often experienced as especially clear, emotionally intensive and easy to remember (Schredl 1999). In a database collected by the counseling department of the Institute for Frontier Areas of Psychology (IGPP) in Freiburg, Germany, containing 1465 cases of exceptional experiences, 6% of these were "meaningful coincidences" (Atmanspacher and Fach 2013). The findings of a qualitative analysis of 40 cases of synchronistic experiences from diverse databases (Roesler 2014) show that synchronistic experiences occur under special conditions, especially in life situations that are characterized by rapid change, crises, or even illness and death; in many cases, the experiences lead to changes in world concept or self-concept, or changes psychological or interpersonal conditions.

Synchronicity is a widespread experience and can have a significant psychological impact. Attempts to find explanatory theoretical models for these phenomena usually question the

epistemological framework of normal science, as for example theories about mind-matter correlations (Atmanspacher and Fach 2013). In this sense, Jung and Pauli's model for explaining synchronicity is an outstanding example of a differentiated and well scientifically grounded attempt to go beyond the usual borders of psychological science.

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yoked them together, due to their beneficial effects when expressed in combination with one another.

Introduction

The synergistic behaviors hypothesis was suggested by Daniel Nettle (2011) as an explanation for why logically separable behavioral traits often covary in clusters, producing broad personality dimensions with multiple facets. Personality psychologists have long been aware that multiple traits pattern together into broader dimensions. The same phenomenon has been noted in animal behavior, where the resulting clusters are known as behavioral syndromes (Sih et al. 2004).

Patterns of Personality and Behavior

To take an example from human personality, individuals who are competitive and ambitious are also sociable and have high levels of sexual motivation (Nettle 2005). These patterns of covariation are not logically inevitable; it would have been equally possible that more competitive individuals were less sociable, for example. Identifying competitiveness, ambitiousness, sociability, and sexual motivation as facets of an underlying personality dimension extraversion does not explain their covariation, except in a limited statistical sense, since it leaves open the question of why that particular constellation of traits, and not some other, covaries positively.

The synergistic behaviors hypothesis proposes that performing one behavior often changes the payoffs to performing others. For example, a competitive and ambitious individual may achieve high social status. High social status creates mating opportunities, and thus the evolutionary payoff for having high levels of sexual motivation may be higher for an individual who is also competitive and ambitious than for who is low in competitiveness and ambition. Maintaining high social status is difficult without investment in social alliances; thus, competitiveness and ambition make it relatively advantageous to also be sociable. In general

“Syndrome of Being Sick”

- ▶ [General Adaptation Syndrome](#)

“Syndrome of Response to Injury”

- ▶ [General Adaptation Syndrome](#)

Synergistic Behaviors Hypothesis (Nettle)

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Definition

The claim that different behavioral traits covary across individuals because natural selection has

terms, where behavior Y is more beneficial to an individual who characteristically exhibits behavior X than one who does not exhibit behavior X, then we should expect natural selection to yoke X and Y together so that they come to covary positively in the population. This could occur in two ways: where there is genetic variation in X, then we should expect Y to be genetically correlated to it. Where variation in X is induced by the environment, then we should expect that Y will be entrained by X itself or whatever causes X to develop (Lukaszewski 2013; see also the work of Lukaszewski and Roney 2011).

The central prediction of the synergistic behaviors hypothesis is that certain *combinations* of traits should be associated with higher evolutionary fitness than other combinations. To continue the example, we should expect reproductive success to be higher in individuals who are competitive and sociable, or noncompetitive and unsociable, than in those who are competitive yet unsociable or noncompetitive yet social. A potential difficulty with this prediction is that if selection has yoked the traits very tightly together, it will be difficult to find individuals with the nonfavored combinations of traits. An appealing feature of the synergistic behaviors hypothesis is that it can account for covariation between behavioral and nonbehavioral traits, as well as amongst behavioral traits. For example, larger and bulkier individuals are more aggressive than smaller and lighter individuals (Ishikawa et al. 2001; Salas-Wright and Vaughn 2014).

Cross-References

- ▶ Evolutionary Perspective
- ▶ Genetic Basis of Traits
- ▶ Nettle, Daniel
- ▶ Personality Structure

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System 1

- ▶ Conscious Versus Unconscious Determinants of Behavior

System 2

- ▶ Conscious Versus Unconscious Determinants of Behavior

System of Drives

- ▶ Taxonomy of Psychogenic Needs (Murray)

Systematic Desensitization

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Definition

Systematic desensitization is a form of exposure therapy developed by Joseph Wolpe for treatment of anxiety disorders.

Systematic desensitization is a form of exposure therapy pioneered by Joseph Wolpe in the 1950s for the purposes of reducing or inhibiting anxious responding. In systematic desensitization, a client is exposed to increasingly anxiety-provoking situations while engaging in a behavior that generates a response incompatible with anxiety (e.g., relaxation; Wolpe 1954). Systematic desensitization was developed on the premise of reciprocal inhibition or the idea that the association between an anxiety-evoking stimulus and anxious responding can be weakened via repeated pairings of the provocative stimulus with a physiological state that is antagonistic with anxiety (Wolpe 1968).

As described by Wolpe, systematic desensitization is a three-step process. During the first phase of treatment, clients work collaboratively with a clinician to generate a hierarchy of fears or a list of anxiety-evoking stimuli that are arranged from least to most anxiety provoking. Next, clients are taught progressive muscle relaxation (PMR) or other exercises that generate a calm physiological state (i.e., an incompatible response to anxiety). After a client is reliably able to achieve a relaxed state using PMR, the client is directed through a series of exposure sessions in which hierarchy items are confronted in a graded manner, starting with the least anxiety-provoking item on their list while simultaneously engaging in PMR. Clients are progressed to the next item on their hierarchy when the initial stimulus generates little or no anxiety. If progression from one stage

to the next leads to an exacerbation of anxious responding, the client may return to the previous stage for additional exposure. When the client has progressed through the hierarchy, and items rated as most anxiety-provoking no longer evoke an anxious response, the treatment is deemed to have been successful.

During exposure sessions, anxiety-evoking stimuli are generally presented in one of two ways: imaginal or in vivo. When using imaginal exposure, the therapist vividly describes a scene depicting the lowest item on a client's hierarchy, while the client is seated in a comfortable chair and in a relaxed state. In contrast, in vivo exposure involves clients directly confronting feared real-world stimuli while engaging in a relaxation exercise. Although research suggests that in vivo exposure tends to be more effective than imaginal exposure in reducing anxious responding and avoidance behaviors (e.g., Mathews 1978), imaginal exposure is often utilized due to its ease of administration, especially in situations where in vivo exposure is impractical or potentially dangerous.

A considerable body of research supports the efficacy of systematic desensitization for the treatment of diverse anxiety-related problems, including specific phobias, agoraphobia, and social anxiety disorder (e.g., Lang and Lazovik 1963; Rothbaum et al. 2000). In addition, systematic desensitization has been successfully adapted for a broad range of psychological concerns, including anger, substance abuse, and insomnia, and it has been modified for diverse delivery formats (e.g., self-help books, computer administered). However, the conjectured therapeutic mechanisms of systematic desensitization have been debated, and theoretical explanations have evolved over time. For example, inconsistent with the reciprocal inhibition model, research has indicated that desensitization conducted concurrent with relaxation exercises is often equally effective to desensitization without relaxation (e.g., McGlynn et al. 1981). In addition, studies suggest that beginning exposure therapy with items at the top of the fear hierarchy produces comparable or better effects than starting with the lowest items, and it is unnecessary to wait

for anxious responding to a specific stimulus to subside during treatment to progress to the next hierarchy item (Arch and Abramowitz 2015).

In response to such findings, various alternative models for the efficacy of exposure therapy have been proposed. For example, Foa and Kozak (1986) proposed the emotional processing theory, which suggests that anxiety-evoking stimuli activate fear structures, or networks of associations between anxiety-related cognitions, emotions, and behaviors, such as escape or avoidance. Repeated exposure to fear-evoking stimuli in the absence of predicted negative consequences leads to the acquisition of new information that is incompatible with the original fear associations, which, when integrated into the existing fear structures, weakens and replaces maladaptive fear associations. In contrast, Craske et al. (2008) proposed an inhibitory learning model of exposure, suggesting that exposure to anxiety-evoking stimuli generates new learning that actively competes with and inhibits, rather than replaces, the original stimulus-danger associations.

Although the theoretical rationale has largely been replaced by other models, and multiple components have been shown to be unnecessary or improved upon in more modern exposure approaches, systematic desensitization remains one of the most commonly practiced forms of psychotherapy by clinicians. As the first exposure therapy, the success of systematic desensitization in the treatment of diverse psychological phenomena has also led to the development of numerous other exposure-based therapies. Thus, despite having been developed nearly 60 years ago, systematic desensitization continues to have a broad, enduring impact of the empirically based practice of psychology.

Cross-References

- ▶ Behavior Therapy
- ▶ Counterconditioning
- ▶ Reciprocal Inhibition
- ▶ Virtual Reality Exposure Therapy

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Systematic Exploratory Interview

- ▶ Semi-structured Interviews

Systematic Literature Review

- ▶ Meta-analysis