Modes: Cohesive Personality States and their Inter-relationships as Organizing Concepts in Psychopathology

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Modes: Cohesive Personality States and their Inter-relationships

as Organizing Concepts in Psychopathology

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Abstract

We propose a transdiagnostic approach which centers on *modes*, state-like manifestations of personality that function as cohesive organizational units. Modes are characterized by specific profiles of affects, behaviors, cognitions, and desires that tend to be co-activated. Each mode is typically experienced as having its own distinct experiential and agentic qualities. A mode-based approach to psychopathology builds on recent analytic and methodological developments which demonstrate the value of modeling personality states dynamically, as well as on longstanding theoretical and empirical traditions that highlight the pragmatic clinical utility of such conceptualizations. We seek to illustrate how the conceptualization of psychopathology in terms of modes and their dynamic inter-relations holds considerable transdiagnostic promise. As background, we review both theory and research from philosophical accounts of selfhood, developmental psychology, social and personality psychology, and diverse psychotherapy models which lay the foundation for this mode-based approach to psychopathology. We elaborate on this foundation and (in Section I of our online supplement) provide examples of the approach's explicit or implicit relevance to several classes of psychopathology, including dissociative, trauma-related, mood, anxiety, obsessional, substance, psychotic, and personality disorders. After addressing the clinical utility of mode-based conceptualizations, we lay out a research blueprint for assessing and modeling modes, and (in Section II of the online supplement) present a broader research agenda highlighting intriguing empirical questions regarding modes in psychopathology. We conclude by noting that the time seems ripe for modes to be (re-)introduced as an organizing construct for understanding psychopathology and personality.

Key words: Transdiagnostic model, Within-person variability, Personality states, Multiplicity, Psychopathology

General Scientific Summary

We put forward the notion of "modes" - cohesive, experientially distinct, state-like manifestation of personality characterized by specific profiles of affects, behaviors, cognitions, and desires - which can serve as an organizing framework for psychopathology. We review long-standing theoretical and empirical traditions which lay the foundation for this concept, as well as recent analytic and methodological developments which allow us to draft a blueprint for assessing and modeling such modes.

Modes: Cohesive Personality States and their Inter-relationships

as Organizing Concepts in Psychopathology

"Faust complains about having two souls in his breast, I harbor a
whole crowd of them and they quarrel. It is like being in a republic."
Otto von Bismarck

The prince of Bismarck is not alone. Most people can report that they shift, at various times, between distinct "states of being". Unique profiles of feelings, thoughts, desires, and actions characterize them in one moment, but may not be there in another. These phenomenological states are often experienced as cohesive. The collection of such states, and their contemporaneous and temporal inter-relationships, has a central role in diverse clinical theories. In cognitive therapy, for example, Teasdale (1997) argued that "we do not have one mind, but many – at any one time, one of these many minds may be dominant, and can be thought of as the current mind-in-place". In emotion-focused therapy, Elliott and Greenberg (2007) noted that "humans [are] constituted of multiple parts or voices". Similar ideas have been put forward by many other clinical theorists and researchers (e.g., Beck et al., 2020; Bromberg, 1998; Dimaggio et al., 2007; Lysaker & Hermans, 2007; Young et al., 2003).

Though many clinicians seem to converge on the idea of a multiplicity of minds, parts, or voices, broad models of psychopathology have yet to adopt this idea, either theoretically or empirically. In the present paper, we will demonstrate how a conceptualization of psychopathology in terms of modes – i.e., distinct and coherent personality states – holds considerable transdiagnostic promise. As background, we will review both theory and research from philosophical accounts of selfhood, developmental psychology, social and personality psychology, and psychotherapy, laying the foundation for a psychopathology model centered on such phenomenological states and their inter-relations. In Section I of our online supplementary materials (OSM; https://osf.io/zb7p2), we illustrate our ideas in greater detail with examples from theoretical and empirical psychopathology

models that adopt this multiplicity approach (either implicitly or explicitly) in addressing the phenomenology of diverse disorders. These are followed by discussing the pragmatic clinical utility of mode-based conceptualizations and by a research blueprint for studying modes in psychopathology (which is further elaborated in Section II of the OSM).

Defining the Concept of Modes: Distinct and Cohesive Personality States

We begin by offering a working definition, inspired by various clinical models, for the concept of modes. As we proposed in a recent paper (Lazarus et al., 2020), modes constitute identifiable units characterized by specific combinations of affects, behaviors, cognitions, and desires (ABCDs; Revelle, 2007) that tend to be co-activated in a meaningful and lawful manner for limited periods of time. They can be conceptualized as within-individual momentary latent classes or profiles (Collins & Lanza, 2010) composed of unique mixtures of variables (Fisher & Bosley, 2020). Importantly, each mode "feels different" – i.e., modes involve distinct subjectively-experienced qualities, rather than simply being a collection of (different) objectively-defined components. As such, they are quite distinct from what several personality psychologists (e.g., Fleeson, 2001; Jayawickreme, et al., 2019) have referred to in recent years as "personality states" – enactments of traits which appear for brief periods, whose density distributions produce the descriptive part of established personality dispositions (e.g., Big Five traits). Instead, modes fit with recent conceptualizations (e.g., Dunlop, 2015; Geukes et al., 2017; Herz et al., 2020; Revelle & Condon, 2015) that posit the existence of state-like manifestations of personality going beyond broad traits to include momentary goals, affects, experiences, behaviors, and evaluations.

Before elaborating on this definition, we want to provide two brief illustrations of mode-based conceptualizations for individuals suffering from psychopathology. First, consider a patient diagnosed with borderline personality disorder, who might begin many interpersonal encounters in a detached mode, but then be triggered into an angry (or even

rageful) mode in response to perceived invalidation. This might be followed by rapid oscillation between a vulnerable mode (experiencing intense shame/guilt) and a self-critical/self-punishing voice. Ultimately, it will often culminate in returning to a submissive or detached mode. Next, consider the mode constellation for a substance-abusing patient, who, in an detached mode, uses drugs or alcohol to self-soothe or self-medicate; this mode might arise following the activation – often very brief but intense – of a distressed (namely, vulnerable or defective) mode, which itself follows the activation of a demanding or self-critical mode.

As these examples illustrate, modes help delineate a within-person typology of discrete states into which individuals customarily fall. The specific components (affective, behavioral, cognitive, or motivational) that characterize these modes are observable/ reportable indicators of what can be considered latent variables (e.g., in a "distressed" mode, the patient described above typically experiences shame and guilt, appraises herself as weak, and is motivated to escape these feelings; in a self-critical mode, she feels self-contempt, holds self-derogatory views, and acts in self-punishing ways). This approach, which focuses on the *unique components* of each mode, lends itself to covariance-based methods (such as factor analysis or network modeling). At the same time, modes can vary along more *global dimensions* relevant to between-individual differences but applicable to within-individual ones as well. For example, the self-critical mode can be expected to be high in agency and power, low in avoidance motivation, high in conscientiousness, and low in agreeableness; the distressed mode will be particularly high in avoidance motivation, and particularly low in agency. This approach makes modes amenable to latent class/profile analyses (i.e., finite mixture modeling).

Mode-based accounts aim to capture the *distinct experiential gestalts* (i.e., the modes) which individuals cycle through, but also speak to the unique *sequencing* of these modes over

time. A powerful way of doing so uses dynamical systems theory (e.g., Hayes & Andrews, 2020), wherein modes may be thought of as *attractor states*, functional units into which a complex system is constrained to converge dynamically. These states emerge from simpler interconnected affective, behavioral, cognitive, and motivational components which self-organize into higher-order patterns. Any person's "system" is likely to comprise multiple attractor states; its adaptiveness will vary as a function of its ability to flexibly shift from one attractor state to another while maintaining structural integrity.

The distinction among modes may vary between, as well as within, individuals. As an individual difference dimension, distinctiveness may range between strong integration and strong dissociation. Highly integrated individuals have a clear sense of continuity and their various modes all feel strongly interconnected. As such, any fluctuations they exhibit or experience should be relatively mild. Contrast this with the strong dissociation which characterizes the (somewhat controversial) phenomenon of dissociative identity disorder (DID), marked by alternate modes, abrupt and dramatic shifts among these, and limited awareness of some modes from within others (aka inter-personality amnesia; for review, see Kihlstrom & Schacter, 2000; Spiegel et al., 2013).

Most individuals lie somewhere between these two poles – their modes might not be amnestic with respect to each other, but they also do not show total singularity or full integration. In reflecting on a disavowed behavior or an unfortunate utterance, most individuals may explain that "this was another part of me speaking" or even "that wasn't me", while knowing full well that it was, in fact, them – i.e., their unitary body – speaking or acting. These are common, more subtle, but still quite encompassing shifts in individuals' personality – i.e., in their sense of self (Blatt, 2008), perception and interpretation of reality (Roche et al., 2013), access to memories (Prebble et al., 2013), and enacted behavior choice.

Notably, the degree to which modes are distinct from each other may also vary within

the same person over time. Abrupt and dramatic events may cast a person, temporarily, into a relatively dissociated mode. Conversely, various adaptive processes (including sheer maturation, healthy relationships, or psychotherapy; e.g., Levy et al., 2006) may help create better integration and less fragmentation among a person's modes.

Alongside the question of the distinctiveness of modes, another fundamental question involves their quantity and specific identities. In a well-worded take on this issue (albeit with regards to "selves" rather than modes), Bandura (1999) raised this question: "…once one starts fractionating the self, where does one stop? […] How does one decide where to stop fractionating selves?".

The honest answer to the question of where to stop and how to delimit modes (or "selves") is "we don't know yet". But if we see the clinical argument (that multiple modes do exist) as compelling, we have to start with stopping somewhere – and then move further out or further in. Ultimately, the answer will be based on the balance between optimal distinctiveness and parsimony. As we will demonstrate, this balance may differ depending on the population (e.g., individuals suffering from one disorder vs. another), the timing, and the purpose of the analysis. Additionally, the answers may differ, in an idiographic sense, from one person to the next. We elaborate on this point in Section I of the OSM.

Theoretical and Empirical Foundations for the Concept of Modes

Philosophical Views of the Concept of Modes

Philosophers have entertained the notion of internal multiplicity for centuries. For example, Hume (1739/1978) compared the "soul" to "a republic or commonwealth, in which the several members are united by the reciprocal ties of government and subordination". More recently, philosophers from both analytic (e.g., Radden, 2013) and continental schools (e.g., Deleuze & Guattari, 1987) have explored various conceptualizations of multiplicity; for the sake of brevity, we will describe ideas only from the former group, which offered a more

structured account of the nature of the units assumed to be "multiple". These models posit that units (i.e., selves[1]) possess, at a minimum, an *embodied* aspect (e.g., Baker, 2000) as well as an *experiential or phenomenological* aspect (e.g., Gallagher, 2013). Often, they also highlight an *agentic* aspect for each unit, which holds the ability to choose, deliberate, and use some rudimentary reasoning. Additionally, some models speak of affective, cognitive, and narrative aspects (e.g., Gallagher, 2013; Radden, 2013).

After defining the relevant aspects of each "self", analytic philosophers have sought to codify sets of necessary and sufficient conditions which would allow delineating these selves. These conditions have been driven by pragmatic considerations about the specific phenomena studied. For example, Radden (2013), who was interested in severe psychopathological states, set the following conditions: separate agency (i.e., separate agendas or normative commitments), separate personality characteristics, continuity (persistence in time of separate selves), and disordered awareness (on the part of at least one self, and resulting in disordered memory).

Our own mode-based approach aims to describe as broad a range of healthy and disordered functioning as possible. For this reason, we opt for fewer (and more inclusive) conditions. Specifically, though we embrace Radden's (2013) first three conditions, we use a less strict rule regarding awareness; though in some cases there might be more extreme inter-mode amnesia or un-awareness, we think it is sufficient for a person in "mode A" to feel (or for a clinician to identify) that experiences they had in "mode B" are different – and in some ways incompatible – with ones that occur in mode A; in other words, that Nagel's "what is it like to be" (1974) question receives qualitatively different answers in each of the modes.

Developmental Accounts of Modes and Mode Constellations

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[1] These conceptualizations frequently refer to multiple *selves* (e.g., Gallagher, 2013). We prefer the term "mode" over the term "self", as the latter is often associated with the more conceptual "me" rather than the experiential/agentic "I" (James, 1890/1950), even when the authors are in fact referring to this experiential aspect of selfhood.

Little empirical work has expressly examined the development of modes or mode-like constructs and their inter-relations. Yet developmental researchers (e.g., Labouvie-Vief & Marquez, 2004) and theorists from multiple persuasions (e.g., Fonagy & Target, 1997, Putnam, 1988; Ryan, Deci, & Vansteenkiste, 2016) have concluded that constellations of mode-like constructs typically result from the successive and recursive processes of differentiation and integration. According to such developmental accounts, a cohesive self is the end-product of persistent integrative efforts made by the developing mind with the aid of responsive and reflective attachment figures.

Infants start off with a basic set of loosely interconnected behavioral programs – specific patterns of psychological and physiological activation that occur together and repeat themselves with relative predictability, and which become more enduring and stable over time (Gopnik & Wellman, 2012). Such states comprise particular affects, arousal levels, motor activities, cognitive processing (e.g., abstractness of thought), access to knowledge and autobiographical memory, and a rudimentary sense of self (Putnam, 1988). These gradually coalesce into efficient context-activated responses (e.g., Fonagy et al., 2007). Such contexts, particularly the interpersonal encounters with significant caregivers (Critchfield & Benjamin, 2010), tend to repeat themselves and thus to activate the same responses; over time and with repeated activation, these responses cluster together into early and distinct prototypes of what we refer to as modes.

The Concept of Modes in Social and Personality Psychology

Diverse strands of psychological theory and research on self, identity, social cognition, and personality point to the idea of multiplicity. A useful framework for understanding these intertwined strands comes from McAdams's (2013) psychological self framework, which argues that personality can be thought of as comprising three levels of psychological individuality—dispositional traits, characteristic adaptations (e.g., goals,

coping strategies, values, and skills), and integrative life stories. These elements construct what William James (1890/1950) referred to as the 'me'—that is, the objective, known part of personality or the self. Importantly, McAdams (2013) – like James (1890/1950) before him – pointed out that personality and the self also encompass a phenomenological quality, centered on subjective experience rather than objective description. James referred to this quality as the 'I' (rather than the "me").

For decades, both the 'me' and the 'I' were seen as unitary; for example, the extensive literature on self-esteem was predicated on the idea that people have a unitary self and that a single dimension (of esteem) applies to it (e.g., Allport, 1955; Wylie, 1974). However, pioneering psychologists (James, 1890/1950, Kelly, 1955) and sociologists (Mead, 1934) argued for a multifaceted view of self and personality, highlighting the variety of aspects, roles, and perspectives comprising the seemingly holistic self.

Inspired by these theories, developmental and social cognitive models (e.g., Block, 1961; Linville, 1987; Roberts & Donahue, 1994) began investigating self-multiplicity empirically, with the majority of this work focused on James's 'me'. Multiple 'me's (i.e., multiple conceptual selves) were seen as co-existing within each person; this leads to individual differences in self-structure (e.g., self-complexity, self-concept differentiation, etc.; for review, see Rafaeli-Mor & Steinberg, 2002; McConnell, 2011). Of course, a dynamic theory of personhood would benefit from a similarly multifaceted view of the subjective (knowing) self, the 'I'. To date, however, research exploring subjective modes or self-states as cohesive units of personality has been quite scarce.

Still, some work within personality psychology and social cognition does have direct bearing on the topic. Some of this work has been experimental in nature, and helps lend internal validity to the concept of modes. For example, in their extensive work on "perspectives", Kross, Ayduk, and their colleagues (for review, see Kross & Ayduk, 2017)

demonstrated the distinctiveness of *self-immersed* (distressed) vs. *self-distanced* (reflective) states, which are marked by different emotions, emotion regulatory capacities, cognition, pronoun use, narratives, and neural correlates. In a similar vein, Dörfel et al. (2014) compared *self-distanced* and *distracted* states and found them to recruit different neural networks. Similar ideas undergird the work of Gilbert, Baldwin, and their colleagues (2006), who used imagery methods to induce one of two "social mentalities" (a harsh *self-critical* state vs. a reflective *self-compassionate* one), and argued that the former is "personalized like a hostile dominant other with the typical qualities of a hostile dominant", whereas the latter is "personalized like a kind, reassuring other with the typical qualities of a reassuring other" (p. 187). Finally, work by Arntz and colleagues (2005) has shown that experimental inductions of fear or anger activate certain modes and do so more strongly for patients with relevant personality disorders.

Alongside these lines of experimental research with their strong internal validity, a separate but highly-relevant literature (e.g., Hopwood, 2018; Rauthmann et al., 2019) has begun to explore dynamic contextual processes in personality psychology. This literature, which emphasizes ecological validity, often employs intensive longitudinal methods (for review, see Sened et al., 2018) to examine brief state-like personality manifestations as they occur in daily life, and seeks to model their dynamic interactions across measurements. Most of the extant work on personality dynamics (e.g., Fleeson, 2001) focuses on variability or change in discrete personality constructs – often ones that were previously considered to be stable traits. Importantly, work within personality dynamics and related fields (e.g., Fisher & Bosley, 2020) can also speak to the presence of distinct profiles or clusters of components that coalesce into identifiable state units. For example, Edershile and Wright (2020) use such methods to isolate grandiose vs. vulnerable narcissistic states, and Hopwood et al. (2019) apply them by tying together various process variables into meaningful wholes based on the

interpersonal situation (e.g., coldness + dominance vs. warmth + dominance). Many of these

models (e.g., Hopwood, 2018) emphasize the dynamic nature of recursive *intra*-individual

patterns that give rise to stable patterns of *inter*-individual differences.

The Concept of Modes in Psychotherapy

Psychotherapy theorists of various schools appear to converge on the multiplicity

notion as central to the human condition. Leading psychoanalysts, particularly ones working

from the object-relations perspective (e.g., Fairbairn, 1944) have focused on the *splitting* of

ego-parts[2] and their subsequent *structure*. As Bromberg (1998), a relational psychoanalyst,

phrased it, people go about life with a "useful illusion of unitary selfhood"; beneath this

illusion lies multiplicity. Other similar ideas have been put forward by clinical theorists

working within interpersonal meta-cognition (Dimaggio et al., 2007), the dialogical-self

model (Hermans, 2001), the assimilation model (Stiles, 2006), cognitive behavioral therapy

(Beck, 1996; Beck et al., 2020; Teasdale, 1997); and emotion-focused therapy (Smith &

Greenberg, 2007). This idea of a multiplicity of modes has received particular attention in the

schema therapy (ST) literature (Young et al., 2003; Rafaeli et al., 2016), to which we will

return in some detail in the OSM and then use to illustrate specific mode-based accounts of

various disorders.

Though different theories of multiplicity refer to the constituent units using different

names (self-states [Bromberg, 1998]; voices [Stiles, 2006]; ego states [Berne, 2016]; modes

[Rafaeli et al. 2011], etc), all ultimately use these concepts to account for short-term

vicissitudes in clients' phenomenology, arrive at individually-tailored formulations of these

clients' experiences, and lay out treatment strategies (cf. Dimaggio & Stiles, 2007). Notably,

many of these theories identify core dynamics or cycles linking together a small number of

recursively-activated modes. These individualized mode constellations can help capture core

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[2] For many psychoanalysts these parts contain both self and other representations.

affective and interpersonal cycles, signatures, or themes (cf., Hopwood et al., 2019; Wachtel, 1994), while also highlighting the constituent states of which they are composed.

A Mode-based Approach to Psychopathology

Our main contention is that any individual's subjective experience is organized around modes – i.e., units which are unique, internally cohesive, and to some extent interrelated – and that characteristics of these modes or their inter-relations underlie typical personality as well as different forms of psychopathology. As our review of the theoretical and empirical foundations for the mode concept illustrates, researchers from certain fields (namely, social and personality psychology) have been gradually moving towards just such a conceptualization. Researchers and theorists from other fields (namely, analytic and continental philosophy as well as psychotherapy) appear to be waiting there already, with models that directly speak to this issue. We believe the field of psychopathology is ripe for such a model as well.

Actually, the idea of modes harks back to another concept with a rich history within the field of psychopathology – the concept of *dissociation* (Janet, 1907). Dissociation involves a "…division [between] two or more insufficiently integrated dynamic but excessively stable subsystems […]. Each [subsystem] minimally includes its own at least rudimentary first-person perspective" (Nijenhuis & van der Hart, 2011). This view of dissociation can account for cognitive compartmentalization (Holmes et al., 2005) – a lack of integration which may manifest, for example, in a separation of (certain) memory materials from one's ongoing sense of self (Prebble et al., 2013). It also ties closely to a modern, trans-theoretical account of dissociation proposed by Lynn et al. (2019), which posits the existence of "sets": "internal constellation[s …], network[s] of associations […] of contextual representations of cognition, mood states, behavioral schemata, and the sense of self" (p. 5).

An approach centered on compartmentalized modes, sets, or discrete states can help

account for psychopathology in two cardinal ways. First, individuals suffering from particular disorders may be characterized by certain specific modes. Second, certain forms of psychopathology may be tied to mode constellations – i.e., overall structures of (and inter-relationships among) modes. In Section I of our online supplement (https://osf.io/zb7p2), we elaborate on these points and illustrate the relevance of mode-based conceptualizations for various forms of psychopathology, starting of course with dissociative disorders but extending well beyond them.

Modes as a Pragmatic Concept for Intervention

Though mode-based conceptualizations were first presented by psychoanalytic and/or trauma and dissociation theorists, they are now well-accepted within other orientations (e.g., Beck et al., 2020; Smith & Greenberg, 2007). Moreover, basic and clinical psychological science – particularly work based on repeated measurements across time or context has also contributed to such conceptualizations by demonstrating considerable within-person fluctuations, not limited to conditions well-recognized as labile (e.g., BPD) or reactive (e.g., anxiety), and also appearing in disorders thought to be more enduring or stable (e.g., depression; Fisher & Bosley, 2020).

Of course, within-person fluctuations are not enough to justify (somewhat un-parsimonious) mode-based conceptualizations. Below, we offer a blueprint for research on modes that could offer stronger empirical justification. To date, however, the strongest support for mode-based conceptualizations is the pragmatic or clinical one; these conceptualizations excel at capturing clients' experience, and their strength is in their ability to provide an intelligible language or lexicon with which clinicians and clients could describe the latter's multiple experiential or agentic states, and set therapeutic goals that involve a change in the states themselves or in their inter-relationships.

Mode-based clinical work (e.g., Rafaeli et al., 2014; Ryle & Fawkes, 2007; Stiles,

2006) aims to alter the overall configuration of modes. In broad terms, this requires three key processes – identifying and labeling individuals' prominent modes; giving voice to adaptive and vulnerable modes over maladaptive ones; and creating adaptive boundaries between modes in ways that alter the relative dominance or power of specific modes. Doing so often involves exploring the modes' origins and functions, and linking these to current problems. Over time, clients are encouraged to consider and experiment with the possibility of modifying or even giving up some modes. Typically, this occurs only after all modes are given a fuller voice, a process that aids in differentiating among them (e.g., Bromberg, 1998).

Because modes are phenomenological states, work with them is often quite experiential rather than conceptual. For example, therapists may invite deliberate interactions between modes using chair-work dialogues (e.g., Pugh, 2017). Additionally, mode-based conceptualizations promote a meta-cognitive self-awareness (e.g., Dimaggio, et al., 2007); this awareness (e.g., that problematic symptoms or behaviors are "just a *part* of me") can be thought of as the output of a reflective or self-compassionate mode (e.g., Gilbert, 2014).

A Blueprint for Studying Modes

Assessment Considerations

Modes are inherently dynamic, contextual, and encompassing gestalts. When individuals are in one mode, their awareness and knowledge of other (not currently active) modes may be limited. Subjective reports that ask individuals (or others – e.g., therapists) to reflect, in one seating, on the entire repertoire of modes, assumes that retrospection about very fleeting states can be trusted. Consequently, capturing or assessing currently-active modes calls for repeated measurement designs, varying in number and frequency as a function of the research question at hand. As we noted earlier, subjective reports could focus on the unique components that compose each mode – i.e., its ABCDs – or on more generic characteristics that distinguish among modes.

Of course, research on modes should go beyond subjective reports and adopt a multi-method approach. Auditory, observational, textual, digital footprint, psychophysiological, and neuropsychological data are all relevant. Such data can be obtained in lab studies (e.g., deliberately priming particular modes or examining individual differences in reactions to standard stimuli). For instance, we might expect individuals at risk for depression to respond to mood inductions with activation of a hopeless mode, which will manifest – beyond self-reports – in altered vocal tone, facial affect, physical posture, interpersonal communication, and autonomic nervous system activation. Crucially, many of these data streams can be collected ambulatorily (e.g., through passive sensing techniques; Jacobson & Chung, 2020).

Modeling Considerations

The modeling of modes can be approached in two over-arching ways. One focuses on the components that make up modes and employs covariance-based methods. The other focuses on generic dimensions that distinguish among modes and employs latent clustering methods. We detail these below, and then discuss how to approach temporal dynamics within and between modes as well as between-individual differences.

A component-based approach. To test whether experiential components are indeed organized into discrete modes, statistical modeling should attempt to group components based on either theoretical or empirical grounds and examine their associations both between and within individuals. Contemporary assessment of personality states (e.g., Horstmann & Ziegler, 2020) often does just that. Specifically, numerous studies employ intensive longitudinal methods to assess ABCDs that can be grouped into meaningful contextual units (e.g., Dunlop, 2015; Geukes et al., 2017); some of these utilize dimension-reduction means (e.g., factor analysis; Zimmerman et al., 2019) which capitalize on the within-individual covariance among ABCD items and can hint at underlying modes. Further advances in the exploration of modes should go beyond descriptive observable state items known to be

manifestations of established traits (e.g., "was talkative", a behavioral manifestation of the extraversion trait or the sociability facet), to tap more experience-near phenomena such as motives, cognitions, and affect, thus clarifying the encompassing nature of the mode-at-hand. For example, "was talkative" may be coupled with "wanted to avoid exclusion", "was self-aware", and "felt embarrassed", which would suggest an entirely different mode than if it were coupled with "wanted to exert power", "thought poorly of others", and "felt self-assured".

Repeated measurements of state items lend themselves to both nomothetic and idiographic analyses (Wright & Woods, 2020). For example, such data can be subjected to (idiographic) p-technique factor analysis, but also to (nomothetic) factor analyses of aggregate person-level data. Importantly, these can be theory-driven (e.g., multi-level confirmatory factor analysis; Geldhof et al., 2014) or data-driven (e.g., multi-level exploratory factor analysis; Reise et al., 2005).

A profile/class-based approach. An alternative and complementary method for identifying modes in multivariate time-series involves clustering the time-points themselves (rather than the state items) within each person, so that each cluster includes relatively homogenous experiences (Asparouhov et al., 2017; Fisher & Bosley, 2020). These versions of finite mixture modeling (Collins & Lanza, 2010) leverage unsupervised machine learning to detect and delineate latent discrete states of subjective experience on a person-by-person basis. This approach estimates the likelihood that a given time point belongs to each profile/class (i.e., mode). Such classification output can then be used for various additional analyses.

The profile/class-based approach corresponds well to the conceptualization of modes as distinct within-person states. At the same time, it constrains effort to identify interrelationships among modes' components or between the modes themselves. Indeed,

discrete modes may differ not only in the static levels of component indicators (i.e., ABCDs), but also in the dynamic associations among them (e.g., Hayes & Andrews, 2020). The latter reflect the notion that modes *operate* in a distinct fashion. For example, in a self-critical mode, a certain cognition ("I am unworthy") is likely to affect motivation ("I want to avoid scrutiny") and affect ("I feel anxious") and these may drive behavior ("withdraw socially"), or vice-versa. In another mode, the cognition "I am unworthy" may be contained without causing significant downstream impact.

Modeling temporal dynamics within and between modes. When individuals shift from one mode to another, both the levels of the component indicators and their dynamic associations may change. Changes of both types may be conceptualized profitably using dynamical systems approaches which constrain complex systems into a set of attractor states (Burger et al., 2020; Hayes & Andrews, 2020). The strength of the associations between the elements (which often include reinforcing feedback loops) may dictate the "pulling" force of the state: weak associations may reflect less entrenched attractors more amenable to change, whereas strong associations may reflect more entrenched attractors which are rigid and resistant to change.

Modeling mode dynamics is a non-trivial challenge. First, compared to other intensive longitudinal studies, the required number of measurements needed to establish accurate and stable associations within and between modes is very high. Second, to capture within-mode dynamics, the measurement frequency must correspond to the data-generating processes, which are likely to be rapid and to require time-lags of minutes or even less (Haslbeck et al., 2019). To make such measurement schemes possible, researchers may want to complement EMA designs with lab studies in which particular modes are induced, with participants then reporting their experience many times (or even continuously).

Dense and lengthy multivariate within-individual time-series data can be approached with recently developed methods allowing researchers to model parameters (e.g., regression coefficients) that change over time. Specifically, time-varying effect models (TVEM; e.g., Dermody et al., 2017) and time-varying vector autoregressive models (Time-varying VAR; Bringmann et al., 2017; Haslbeck et al., 2020) can divide a time series into distinct segments (or "knots") based on differences in the magnitudes of associations among two (or more) variables. Conceptually, such segments may represent different modes that are currently active. Time-varying VAR can also help identify local feedback loops (e.g., upward spirals; Garland et al., 2015) that wax and wane, possibly representing activation and deactivation of modes.

Modeling between-individual differences. As in any investigation of within-person dynamics which does not assume homogeneity among individuals, mode modeling can – and often should – include both within- and between-individual levels. For example, mixture simultaneous factor analyses (MSFA; De Roover et al., 2017), which combine within-individual factor analysis and between-individual mixture modeling, can help identify idiographic factors but then cluster participants with similar factor structures.

Other methods, including ones rooted in the structural equation modeling framework, also allow clustering of individuals based on patterns of associations among studied variables (e.g., S-GIMME; Lane et al., 2018). This integration of within- and between-individual levels can allow a critical dialogue between a mode-based approach and other comprehensive classification systems (e.g., HiTOP, Kotov et al., 2017) whose strengths include a better accounting for heterogeneity within disorders and comorbidity among them. We believe that such integration has the potential to enrich these systems significantly by incorporating within-individual variability, to date absent from such cross-sectional systems.

Concluding Thoughts

Historically, the strength of the mode concept and the mode-based approach has come from their theoretical, experiential, and pragmatic appeal. As our review illustrated, diverse sources of inspiration from philosophy, developmental science, personality, social psychology, and psychotherapy converge on this approach. At the same time, modes have received very little empirical scrutiny, and have been underemphasized in contemporary research on psychopathology. To a large extent, this imbalance has stemmed from methodological and analytic limitations that have gradually lifted in recent years.

We think the time is ripe for modes to be (re-)introduced into the field of psychopathology. To do so, we reviewed the theoretical foundations of the mode concept, formulated a working definition of modes, illustrated their transdiagnostic relevance, and reviewed their pragmatic utility. Recognizing the weakness of current research on modes, we noted assessment and modeling considerations that should facilitate empirical scrutiny of modes and mode-based conceptualizations. In Section II of our online supplement (https://osf.io/zb7p2), we elaborate on this blueprint, and present possible research questions including ones related to the phenomenological/agentic qualities of modes, their development, and their role within psychotherapy. Taken together, we hope this review makes a compelling case for the conceptual clarity, pragmatic utility, and (rudimentary but promising) empirical basis for the notion of modes as an organizing construct for understanding psychopathology and personality.

Online Supplementary Materials

Manuscript title: Modes: Cohesive Personality States and their Inter-relationships as

Organizing Concepts in Psychopathology

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Section I: Formulating and Illustrating Mode-based Conceptualizations

General Considerations

Before discussing specific mode-based conceptualizations of particular disorders, it is important to address these general yet fundamental questions: How many modes are there and what are their identities? Are modes necessarily relational/interpersonal? Is there a *superordinate* or *reflective* mode? And finally, should mode-based conceptualizations map onto DSM categories or alternative taxonomies?

How many modes are there and what are their identities? Some of the clinical theories noted in the main text (e.g., relational psychoanalysis) argue for a great multitude of modes (or self-states) and avoid imbuing these with any set characteristics (e.g., Bromberg, 1998). Other theories (e.g., transactional analysis [Berne, 2016]; internal family systems [Schwartz & Sweezy, 2019]) propose a very limited set of well-defined states. Litigating this issue requires striking a balance between optimal distinctiveness (i.e., minimizing definitional overlap among modes) and parsimony (i.e., limiting the number of modes as much as possible). As we briefly noted in the main text, we (e.g., Lazarus et al., 2020) find that the schema therapy (ST) approach (Rafaeli et al., 2016; Young et al., 2003) strikes such a balance and offers a particularly promising starting point for the exploration of mode-based conceptualizations.

ST (e.g., Young et al., 2003) answers the question of how many modes should be

delineated with an intermediate position. It certainly values creating individually-tailored case-conceptualizations, and thus, sees the merit in the relational psychoanalytic idea of multiple states (e.g., Bromberg, 1998; Davies, 1998). At the same time, it recognizes the costs involved in entirely individualized conceptualizations, which limit the ability to find generalities across individuals, and thus prizes the benefits of parsimony and of acknowledging the considerable similarity that exists across individuals (e.g., Fassbinder et al., 2019).

To balance out parsimony and comprehensiveness, ST proposes two possible starting points for a taxonomy of modes, and then allows moving further out or further in as needed. One starting point in ST is that of *individual modes*, while the other emphasizes commonalities among modes that fit within *pre-defined categories*. Below, we detail each of these categories and note exemplar individual modes; these will then serve us well in the section detailing mode models for specific disorders.

The first category includes "*child modes*" – rudimentary states centered around primary emotions and motivations, often ones that are present from infancy or early childhood (e.g., sadness/anxiety, anger/protest, impulsivity/whim, and secure exploration/playfulness/calmness/contentment). Though thought to emerge in childhood, these modes remain available throughout life. A second and more pernicious category comprises *introjected modes,* which echo one or several negative and dysfunctional voices (e.g., *punitive* or *critical parents*) that were implicitly or explicitly learned. The third category includes *maladaptive coping modes* which coalesce into being due to repeated activation of a growing child's basic psychological survival and adaptation strategies – typically, *flight* (i.e., avoidance or escape), *fight* (i.e., over-compensation) and/or *freeze* (i.e., compliance or surrender) strategies enacted to withstand whatever deprivation of needs occurred in early environments or are still at play; usually, this is the same deprivation which continues to echo

in the form of one or more introjected mode(s). Finally, most people also have

healthy/positive modes – namely, at least some semblance of reflection, self-compassion, and

coherence. For specific individuals, each of the first three categories (i.e., child modes,

introjected modes, and maladaptive coping modes) may include more than one mode (e.g., an

avoidant *flight* mode alongside an over-compensating or perfectionistic *fight* mode).

      ST developed as an integrative approach, and an appealing feature of adopting its

proposed taxonomy is that it, too, is easy to integrate with alternative theoretical taxonomies

for modes or mode-like constructs. Specifically, most modes discussed by many (if not all)

theories fit quite nicely within the four-category framework discussed above. For example,

emotion focused therapy's *critical voice* (e.g., Greenberg & Watson, 2006) is akin to an

introjected mode in ST; transactional analysis's *adult ego state* (e.g., Berne, 2016) mirrors the

healthy adult mode in ST; Davies and Frawley's (1992) *unseen, neglected child* and

idealized, omnipotent rescuer are similar to the vulnerable child mode and the over-

compensatory coping mode, respectively.

      Some taxonomies call for a rougher distinction, simply pitting "healthy/adaptive"

modes vs. "disordered" modes. For example, Beck (1996) noted the centrality of a "panic

mode" in anxiety disorders, an OCD mode in obsessional ones, etc.; more recently, Beck et

al. (2020) conceptualized the experience of individuals diagnosed with schizophrenia along

the lines of three modes: "psychotic mode", "negative symptoms mode", and "adaptive

mode". In a way, this rougher distinction can still be mapped onto the four-category approach

championed by ST – the "adaptive mode" can be thought of as analogous to the "healthy

adult" mode in ST, whereas the distressed/disordered mode can be thought of as analogous to

whatever core constellation of emotional "child" modes, maladaptive coping modes, and/or

introjected modes tend to become activated.

      In many (though not all) cases, the phenomenology of individuals with particular

diagnoses may be best conceptualized with reference to the maladaptive coping mode(s) in use. For example, individuals with OCD often show a strong "perfectionistic over-control" coping mode; those with chronic depression often show a profoundly hopeless "surrender" coping mode; and psychopaths often show elevation in unique "predator" and "bully" coping modes.

Below, in presenting specific mode-based conceptualizations, we review theories (and in rare cases, extant data) tying particular disorders to ST-defined modes or mode constellations, and/or to mode-related accounts drawn from alternative theoretical perspectives.

Are modes necessarily relational/interpersonal?

Starting with the seminal writings of Harry Stack Sullivan (1950), many theorists and clinicians have discussed mode-like constructs that are inherently relational. As Sullivan put it, "for all I know every human being has as many personalities as he has interpersonal relations". More recent theoretical accounts (e.g., Bromberg, 1998; Davies & Frawley, 1992) as well as empirical studies (for review, see Hoyle, Kernis, Leary, & Baldwin, 2019) echo this idea that the self is actually composed of multiple *self-with-other* experiences or representations. These modes of self-with-other may emerge from early interactions with significant others which are internalized (Bowlby, 1973) or "copied" (i.e., identified with, recapitulated, or introjected; Critchfield & Benjamin, 2010) in such form. At any specific moment, the "other" may be real or imagined; once encountered (or brought to mind), the other serves as context or trigger for the particular mode, which – when activated – comes replete with specific emotional knowledge, expectancies, motivation, and behavioral strategies tied to that specific "other".

The idea that modes may be learned within the context of meaningful attachment relationships and triggered by certain others throughout life is entirely compatible with the

ST approach (e.g., Rafaeli et al., 2011). However, this approach stops short of assuming that *all* modes are inherently relational or interpersonal. In the specific mode-based conceptualizations presented below, we do not assume that modes are necessarily relational, but do note those cases where theory or data suggest that they are.

Is there a *superordinate* or *reflective* mode?

The ST framework (Rafaeli et al., 2016; Young et al., 2003) and some other clinical approaches (e.g., the dialogical-self framework; Dimaggio et al., 2007) speak of an over-arching mode which is superordinate to other modes, and which holds both integrative and reflective functions. A unique quality of this mode (referred to as a "healthy adult" in ST) is its ability to reflect on – and be in dialogue with – other modes, which is central to experiencing self-compassion.

Other clinical approaches address integration and reflectiveness in a more process-oriented way, without necessarily assuming a distinct mode-like entity for them. For example, Lynn et al. (2019) introduce the concept of "meta-consciousness", which is akin to mentalization (Fonagy et al., 2007) and thought to result in more stable and coherent self-representations. These, in turn, further promote the ability to identify and monitor thoughts, feelings, and behaviors, facilitate their integration, and achieve better self-regulation.

As we show in the specific mode-based conceptualizations presented below, key factors that underlie psychopathology (e.g., poor self- and emotion-regulation, as well as identity disturbance) can also be conceptualized as a paucity or complete absence of a reflective mode. Indeed, many clinical approaches center on the goal of strengthening this mode by establishing or regaining meta-cognitive capacities, self-compassion, reflective function, or mentalization abilities.

Should mode-based conceptualizations map onto DSM categories or alternative taxonomies?

The mode-based conceptualizations of specific disorders to which we turn shortly are organized around categorical clinical syndromes drawn from the DSM-5 taxonomy. We made this choice because the DSM continues to be widely used, but if mode-based conceptualizations are to be of use across most or all forms of psychopathology, they must also be in dialogue with other comprehensive classification models besides the categorical one. In particular, recent collaborative efforts have led to the development of dimensional and hierarchical models of psychopathology in general (e.g., the Hierarchical Taxonomy of Psychopathology; HiTOP, Kotov et al., 2017) or of particular groups of disorders (e.g., the Alternative Model of Personality Disorders; AMPD, Krueger & Hobbs, 2020). These address the problems of comorbidity and heterogeneity that have plagued the category-based DSM. Importantly, some early work tying mode-based accounts (and specifically, ST modes) with these models has recently appeared (Bach & Bernstein, 2019; Jacobs et al., 2018). For example, as Jacobs et al. (2018) show, inpatients suffering from disorders marked by high compulsivity are likely to have particularly strong perfectionistic over-controller and "demanding parent" modes; in contrast, the same modes are mostly irrelevant for those suffering from externalizing disorders, whereas modes such as anger/rage, impulsivity, and a "bully/attack" protector are likely to be particularly strong.

Mode-based Conceptualizations of Specific Disorders

The idea of modes harks back to another concept with a rich history within the field of psychopathology – the concept of *dissociation*. The discussion of dissociative states in psychopathology began with Pierre Janet's (e.g., 1907) writing, which treated it as the lack of integration among (at least) two different "systems of ideas and functions that constitute personality" (p. 332). In a recent revision of Janet's definition, Nijenhuis and van der Hart (2011), proposed that "the division involves two or more insufficiently integrated dynamic but excessively stable subsystems […]. Each dissociative subsystem […] minimally includes

its own at least rudimentary first-person perspective."

In extreme (and rare) cases, sets may be experienced – and also appear from the outside – as distinct personalities, with the particularly strong fragmentation and cognitive-emotional dysregulation characteristic of patients who receive the diagnosis of DID. But whether extreme or not, sets involve *hyperassociation* –i.e., increased activation and fluency of semantically and affectively related concepts. The repeated activation of such associations consolidates these response sets into "perdurable, readily accessed, and increasingly automatized cognitive-behavioral-affective associational networks". Importantly, sets and hyperassociation can occur outside of dissociative disorders: in such cases, the association processes are likely to be better regulated, modulated, or adapted to contextual affordances or demands. This view of sets is very close to our view of modes, and also to Putnam's (e.g., 1988) concept of discrete behavioral states.

Dissociative Disorders. Dissociative disorders serve as a good starting point for our illustration of mode-based conceptualizations of specific disorders for two reasons. First, they provide a striking (if extreme) example of multiplicity. Second, they have been the focus of over a century of theory and research focused on the experience of multiplicity (e.g., Janet, 1889; Prince, 1906).

Two cardinal groups of symptoms – detachment and compartmentalization – characterize dissociative disorders[3]. In mode terms, *detachment* (e.g., depersonalization and derealization) can be thought of as an extreme (and quite maladaptive) coping mode, an alteration in consciousness that severely impedes access to emotions and cognitions. As Spiegel et al. (2013) note, these alterations provide an immediate means of modulating the

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[3] It is important to note that neither detachment nor compartmentalization are unique to the dissociative disorders (for review, see Lyssenko et al., 2018; Soffer-Dudek, 2014); this will be illustrated in the following pages as we discuss a myriad of disorders in which dissociation is present.

acute perceptual impact of traumatic experiences but may also become persistent or recurrent.

Notably, though all dissociative disorders (as well as related conditions, such as the

dissociative subtype of PTSD; Wolf et al., 2012) involve alterations in consciousness

manifested in a disconnection from the self or the world (Holmes et al., 2005), only some

(namely dissociative identity disorder [DID] and dissociative amnesia; Spiegel et al., 2013)

also involve *compartmentalization*.

Unmitigated compartmentalization, and particularly the (albeit controversial)

phenomenology of DID, illustrate the extreme pathological case of multiple unintegrated

modes. As Spiegel et al. (2011) note, DID is marked by alternate identities which share

stereotypical features ("child alters", "protectors", "introjects", "vengeful ghosts", "angry

gods") that pattern their behaviors, affects, and cognitions into stable alternate roles with

whom the sufferer's social network can interact.

The root causes of dissociative symptomatology have been debated, with some

accounts emphasizing the role of trauma, abuse, or neglect (e.g., Gershuny & Thayer, 1999)

and others deemphasizing this role and instead highlighting socio-cognitive mechanisms that

lead to weaker integration (Giesbrecht et al., 2008). Importantly, either cause can create the

phenomenon of compartmentalized modes. For example, in a recent paper, Lynn et al. (2019)

explain that early neglect, characteristic of family environments in which caregivers serve as

poor models and even poorer instructors of emotion regulation and labeling, may lead to poor

integration and to what they refer to as particularly compartmentalized "sets": "internal

constellation[s …], network[s] of associations […] of contextual representations of cognition,

mood states, behavioral schemata, and the sense of self" (p. 5).

As Lynn et al. (2019) note, sets may be experienced – and also appear from the

outside – as distinct personalities, especially in cases in which fragmentation and cognitive-

emotional dysregulation are strong (as occurs with patients who receive the diagnosis of

DID). Interestingly, the sets that typically emerge fall quite neatly into the categorical scheme suggested by ST (and particularly into the categories of child modes, introjected modes, and maladaptive coping modes).

Trauma-related disorders. Though dissociation in general and dissociative disorders in particular may not necessarily result from trauma (e.g., Giesbrecht et al., 2008), there is no question that trauma itself often leads to the emergence of bifurcated experience (e.g., Brewin & Holmes, 2003), to distinct and intense subjective experiences (e.g., intense fear; Foa & Rothbaum, 1998) which may be akin to new modes (e.g., a traumatized or imperiled mode), and to impaired integration among existing modes (Putnam, 1997). As cognitive and learning-theory researchers have suggested, trauma leads to a division between verbally accessible memory, which makes up more general autobiographical memories, and situationally-accessible memory (e.g., flashbacks) which come replete with intense affect, physiological changes, and action tendencies, and which are not well integrated into the general knowledge database (e.g., Foa & Rothbaum, 1998).

Researchers working from a traumatology perspective (e.g., Frewen & Lanius, 2015; Nijenhuis & Van der Hart, 2011) differentiate between several kinds of trauma-related dissociation. Particularly, they point out the phenomena of structural dissociation (defined as a division of the personality; Nijenhuis & Van der Hart, 2011) and of disowning/compartmentalization of states (Frewen & Lanius, 2015) which they see as distinct from other kinds of dissociation (see also Holmes et al., 2005, for a similar distinction). We consider these phenomena to be analogous to our notion of modes, and again, note that these modes fall quite neatly into the ST mode categories.

Very similar ideas regarding trauma and dissociation emerge from the psychoanalytic literature (e.g., Howell, 2013). In one particularly prominent model, Davies and Frawley (1992) described how survivors of trauma often shift between various "ego states" (e.g.,

victim, abuser, and idealized/omnipotent savior). Interestingly, this model highlights the reciprocal activation of complementary ego states in close others (e.g., therapists).

Mood disorders. Mood disorders might not seem to lend themselves as easily to mode-based thinking. Afterall, the constituent episodes that compose *unipolar* major depression (i.e., 2 weeks or more of depressed mood, diminished interest, etc.) differ from the very rapid-onset and rapid–offset states we had discussed thus far. Similarly, even "rapid-cycling" *bipolar* disorder involves episodes that unfold over the course of weeks or months.

However, work on both unipolar and bipolar mood disorders does point to a phenomenology of modes. Among depression sufferers, extensive symptomatic fluctuations often occur within days or even faster (e.g., Fisher & Bosley, 2020); at least some of these fluctuations can be understood as shifts in mode activation. For example, Beck et al. (2020) describe patients shifting in and out of a "depressive mode" characterized by withdrawal and avoidance behaviors and by a system of corresponding beliefs (e.g., "life is hopeless"). As Beck and Haigh (2014) note, this mode is disassociated from broader personality, and becomes a displaced autonomous entity impermeable to environmental factors. The meta-cognitive assimilation model (e.g, Osatuke et al., 2011) similarly suggests that depression is characterized by the internal dominance of one particular "self-state" – an interpersonally submissive, self-critical voice, which diminishes one's self-worth, suppresses other voices (e.g., those asserting one's own needs), and leads to negativity and pessimism.

This conceptualization highlights the centrality of a suppressing (and in ST terms, introjected) mode and of an internal (and typically lopsided) conflict between this mode and a more fragile vulnerable mode (seen as a child mode in ST) which is typically disowned, non-resilient, and marked by a sense of hopelessness and collapse. Other theorists also refer to this as the "experiencing" self (e.g., Greenberg & Watson, 2006) or the submissive voice (e.g., Osatuke et al., 2007).

In bipolar disorder, the co-existence of at least two very distinct "states-of-mind" makes a mode-based account even more apt. Specifically, manic states are characterized not only by elevated mood (e.g., Herz et al., 2020), but also by specific (e.g., high-risk) behaviors, cognitions (e.g., associative thoughts), and desires (e.g., altered reward processing). Conversely, depressive states are characterized by typical ABCD components of their own. In both manic and depressive states, these components may be linked dynamically (e.g., Hayes & Andrews, 2020); indeed, both between-mode and within-mode dynamics may play a part in the phenomenology of mood swings and bipolar disorder (e.g., Mansell et al., 2007).

Social Anxiety. Social anxiety disorder (SAD) involves the combination of fear and avoidance of potentially humiliating or embarrassing situations. What sets socially anxious people apart is not their dismay at experiencing such situations, but rather the intense and densely interconnected manner (Heeren & McNally, 2018) in which they enter any of the modes characteristic of this disorder: critical self-monitoring, fear, and avoidance (Clark & Wells, 1995). Avoidance is particularly intense in SAD, and some cognitive-behavioral theorists (e.g., Gilboa-Schechtman et al., 2020) have argued that it precludes much of any subjective experience, and leaves those suffering from SAD with an almost constant self-evaluative outside-in perspective (i.e., the representational "me", rather than the experiential "I"). Relatedly, high SA individuals were found to have reduced self-clarity and heightened self-compartmentalization (e.g., Stopa et al., 2010).

The relevance of mode-like constructs to SAD is recognized in other clinical models as well. For example, the EFT model (e.g., Elliott & Shahar, 2017) posits that individuals with SAD possess a pervasive self-critical voice organized around a "scheme" of fear/distrust which motivates the person towards safety behaviors. When activated, this voice "attacks" the vulnerable part of the person, organized around a scheme of shame. As part of the

therapeutic process, EFT encourages clients to access and activate additional modes –

namely, adaptive schemes of sadness or anger, along with their accompanying needs.

Obsessive Compulsive Disorder (OCD)

The phenomenology of OCD provides one of the clearest examples for the operation

of distinct and conflicting modes. On the one hand, individuals with OCD recognize that their

obsessions and compulsions are excessive or unreasonable (Abramowitz et al., 2009); on the

other, they act upon them as if they are true. This ambivalent sense of self (Guidano & Liotti,

1983) – "good" vs. "bad", moral vs. immoral – leads OCD sufferers to take strong action to

resolve the ambivalence.

As the ST account of OCD (e.g., Gross et al., 2012) points out, these actions are often

performed within compulsive or perfectionistic coping modes, which are activated to allay

the distress caused by intrusive thoughts. Specifically, compulsions can be thought of as the

behavioral component of a protective mode which is also marked by unique affect (alert

tension), cognition (excessive monitoring), and desires (strong prevention focus) which serve

a functional role in the person's internal dynamics.

Where compulsions reflect a coping response, intrusions may reflect elevated punitive

and demanding introjected modes, accompanied by vulnerable and compliant child modes

(Voderholzer et al., 2014). Importantly, stronger introjected modes were tied to poorer

treatment response following CBT with exposure and response prevention (Thiel et al.,

2014).

Substance-Related and Addictive Disorders. Several researchers have contended

that substance abuse (e.g., Somer et al., 2010) and behavioral addictions (e.g., Schluter &

Hodgins, 2019) are characterized by heightened levels of dissociation (including detachment

and/or compartmentalization). With respect to the former, substance-use as well as behavioral

addictions are often motivated by the sense of detachment or escape they engender (e.g.,

Ledgerwood & Petry, 2006). With respect to the latter, all addictive disorders (including substance- and non-substance-related ones) involve a cluster of repeatedly activated affective, behavioral, cognitive, motivational, and physiological symptoms related to enduring consumption of the addictive substance or engagement in the addictive activity for short-term gratification, despite causing significant longer-term problems (APA, 2013).

This conflict between short-term gratification and long-term well-being invites a mode-like conceptualization. At the most rudimentary level, the very states of sobriety vs. intoxication are quite distinct and can be thought of as modes. For example, Winograd et al. (2014) found robust sober-to-drunk differences in big five traits. Similarly, gambling or electronic gaming often involve a sense of immersion, altered awareness, or "being in the zone" which are distinct from typical behavior (e.g., Oakes et al., 2020). Along these lines, work from the ST perspective has found substance use disorders to be tied to elevated levels of particular modes (including a self-soother or self-stimulator coping mode, vulnerable and impulsive child modes, and self-critical introjected modes; Boog, et al., 2018). Similar ideas have been discussed by psychoanalytic writers (e.g., Burton, 2005), who posit specific "selves" or self-states tied to addictions, and note particular associations (or dissociations) among these.

Psychotic Disorders. Starting with Bleuler's (1911) early writings on schizophrenia, a disorder whose very name was chosen to convey the fragmentation and disintegration of the mind, many authors have noted the centrality of a "splitting of the self" and of self-disturbance in the first-person experiences of individuals suffering from psychotic disorders (Lysaker & Lysaker, 2008). As Sass and Parnas (2003) suggested, schizophrenia involves an extreme form of self-awareness – hyper-reflexivity – which culminates in fragmentation. Individuals become so lost in radical self-absorption, during which the possibility of connection to others or of shared experience becomes impossible. In fact, this break-down in

communication also extends to any possible dialogue between the self-facets (Lysaker & Lysaker, 2008). Interestingly, recent decades have brought theorists from relatively disparate schools of thought to propose mode-like accounts of psychotic disorders. These have ranged from Kernberg's personality structure model (1981), which delineates a psychotic personality organization characterized by identity diffusion and by poorly delimited self- and object representations, to Beck et al.'s (2020) Recovery Oriented Cognitive Therapy (CT-R) approach which explicitly adopts the notion of modes.

Personality Disorders (PDs). Personality disorders (as defined in both the traditional categorical model and the AMPD; APA, 2013) involve disturbance in self and interpersonal functioning. Clearly, these definitions center on the idea that, for those suffering from PDs, identity itself is disturbed or incoherent (Wilkinson-Ryan & Westen, 2000) and facets of one's personality are poorly integrated (e.g., Kernberg & Caligor, 2005). Structural disintegration has been tied to the severity of personality dysfunction (e.g., Zimmermann et al., 2012), and appears in many commonly-used measures of PDs. For example, Westen et al.'s SCORS-G (e.g., Stein et al., 2018) asks clinicians to code their patients' ability to view their self in consistent ways and to maintain personal values, a coherent sense of life history, and long-term goals. Similarly, Verheul et al.'s (2008) SIPP-118 also includes items assessing the stability of the self.

Importantly, as Hopwood (2018) has noted, conceptualizing PDs using complex temporal dynamics is empirically and conceptually incompatible with the use of cross-sectional questionnaires or interviews. Instead, many PD researchers have turned to dynamic assessment using repeated measures (e.g., Wright & Simms, 2016). Collectively, such studies emphasize the contextual nature of PD symptoms, and highlight the need for models of within-person structure and variability.

As noted earlier, ST (Arntz & Jacob, 2013; Young et al., 2003) posits specific mode-

based conceptualizations for each of the personality disorders (and similar ideas are present in other approaches, including relational psychoanalysis [e.g., Howell, 2013] and meta-cognitive interpersonal therapy [e.g., Dimaggio et al., 2007]). These accounts have received empirical support, with studies documenting specific ties between PDs (e.g., Lobbestael et al., 2008) or PD traits (Bach & Bernstein, 2019) and theoretically-related mode constellations. To illustrate these accounts, the next two sub-sections focus on borderline and narcissistic PDs, arguably the most widely-studied PDs (e.g., Hopwood, 2018). Of course, similar accounts can be applied to all PDs.

Borderline Personality Disorder (BPD). From the earliest accounts of borderline personality (e.g., Schmideberg, 1959), clinicians have recognized its defining feature of "stable instability" in affect, behavior, cognition, desire, and identity. Individuals with BPD have quick associations between distressed and rageful states (Berenson et al., 2011). They oscillate strongly between polarized negative and positive affective and relational states, but this polarization itself is context-dependent, and increases when interpersonal stress is elevated (Coifman et al., 2012).

As multiple studies have shown, the context-sensitive instability in BPD is tied to a strongly compartmentalized self-concept organization (e.g., Vater et al., 2015) and to a less coherent narrative identity (Adler et al., 2012). Instead of an over-arching coherent self, individuals with BPD appear to oscillate between several modes, each characterized by a distinct phenomenology (incl. detachment/numbing, anger/rage, self-criticism/shame, or impulsivity; e.g., Arntz et al., 2005; Bach & Farrell, 2018). They also differ from non-patients as well as patients with other PDs in the rarity with which they experience states of reflective self-compassion or contentment (e.g., Bach & Farrell, 2018).

Narcissistic Personality Disorder (NPD). Recent accounts of NPD have highlighted the presence of two facets – grandiosity and vulnerability (e.g., Miller et al., 2017). Though

these have been addressed as possible subtypes, many clinicians and theorists find that both vary *within* individuals as well (e.g., Kohut & Wolf, 1978; Pincus et al., 2014). Theoretical and empirical work on this topic has further developed this idea, which is consistent with a mode-based conceptualization. As Gabbard and Crisp (2018) note, "…the most useful way to approach the diagnostic dilemmas that one encounters [in NPD] is to investigate characteristic *modes of relatedness* that the patient describes or enacts. A careful examination of the relational patterns reveals valuable information about both the self-structure of the narcissistic patient and the way that self tends to interact with others" (emphasis added). Edershile and Wright (2020) showed that variability in narcissistic states (i.e., exhibitionistic grandiosity, entitlement, and vulnerability) measured intensively and repeatedly in daily life was greater for those higher in dispositional narcissism, and was tied to variability in interpersonal perception, demonstrating the sweeping nature of the state. Similar fluctuations have been documented among NPD patients in psychotherapy (Pincus et al., 2014).

Section II: A Research Agenda for the Study of Modes

As our review illustrates, the exploration of modes and of mode-based conceptualizations in psychopathology has been more theoretical than empirical, to date. To a large extent, the paucity of research can be attributed to the inappropriateness of traditional research designs and analytic tools for the assessment and modeling of modes. Thankfully, advancements in both of these areas (detailed in the Blueprint for Studying Modes section of the main text) allow for sophisticated empirical work testing mode-based accounts and hypotheses previously deemed purely theoretical. In this section, we elaborate on topics that we see as central to a mode-focused research agenda.

Studying the Phenomenology of Modes.

Research on modes and mode-based conceptualizations overlaps to some degree with other accounts of within-person dynamics, whether in affect (e.g., Trull et al., 2015), behavior (personality states – e.g., Fleeson, 2001; interpersonal behavior – e.g., Wright et al., 2017), cognition (self-esteem – e.g., Thewissen et al., 2008; interpersonal perception – Edershile & Wright, 2020), or motivation (e.g., approach/avoidance – Hajal et al., 2019). But rather than focus on one construct (e.g., affect), mode-based accounts posit that these dynamics actually cohere: if a person feels, acts, thinks, and desires differently at one moment vs. another, we should try to identify the experiencing *subject* (Zahavi, 2008) or *agent* (McAdams, 2013) at hand in each of those moments, and somehow tap their distinct phenomenology. Assessing individuals' phenomenological experience should go beyond affect, cognition, or motivation and try to tap into their agentive self-awareness, authorship, embodiment, and actual or subjective behavioral control (for reviews, see Haggard & Eitam, 2015). Some of these experiences may be readily accessible and easy to report; others may benefit from alternative means of assessment or experimental manipulation.

Studying the Development of Modes.

In the main text, we briefly reviewed developmental accounts of modes and mode constellations, but noted the paucity of such research. We strongly believe that a better understanding of how modes come about is crucial. With respect to specific modes, we know very little, but with respect to the over-all structure of modes, we may find some relevant leads in attachment research. After all, decades-worth of research on attachment processes has linked these to self-regulation and mentalization capacities (e.g., Cassidy et al., 2013; Fonagy et al., 2007): when attachment is secure enough, the individual develops an ability to reflect on their own (and others') mental states, and differentiated mode prototypes begin to fall into place within an integrated structure.

With sufficient integration of the (still distinct) modes, the person achieves some sense of unity or cohesion, and modes are not experienced as incompatible (i.e., disavowed). In certain cases, these modes may be simultaneously activated as part of an "expanded self" (Walton et al., 2012); in such cases, the person is likely to have more moderate or balanced reactions (e.g., excitement tampered by reason, or worry tampered by sufficient social safeness; Liotti & Gilbert, 2011).

In contrast, in cases of childhood maltreatment, and specifically when early attachment figures are not reliably available, contradictory working models might evolve into a fragmented or dissociated personality structure (Fonagy et al., 2007). Moreover, with poorer integration or under greater duress, transitions between modes (i.e., set shifts; Lynn et al., 2019) are likely to be more abrupt and involve more intense negative emotions. In such cases, individuals become more constrained to specific (usually maladaptive) modes (or *states;* see Wichers et al., 2019) with a limited set of responses and an inflexible mindset (e.g., Walton et al., 2012).

Studying Modes in Psychotherapy.

Research on modes can be of great utility in psychotherapy research. At the simplest

level, modes could be used as indices of both processes and outcomes in therapy. But beyond that, recent years have witnessed an explosion of interest in personalizing treatment for psychological problems. Such personalization requires formulating psychopathology in terms of complex and dynamic interrelations between multiple components that are "nontrivially specific to each individual" (Wright & Woods, 2020). Within-person associations between these often differ significantly from between-person associations (Fisher et al., 2018); moreover, though substantial commonalities may exist across individuals suffering from similar symptoms or syndromes in the identity of these components and in their interrelations, idiographic peculiarities (e.g., Lazarus et al., 2020) may be very important and should thus be modeled (Piccirillo & Rodebaugh, 2019). In any case, modes may be ideal candidates for such formulations, and individualized mode "maps" can (and in fact do) serve as guides for intervention efforts (e.g., Fassbinder et al., 2019).

Additional Mode-related Questions.

Beyond the questions already raised, we look forward to research that will shed light on as many of the following questions as possible: Does the simultaneous and coordinated activation of perception, attention, thought, affect, and behavior of certain (or all) modes correspond to particular neurological networks (e.g., Herz et al., 2020)? Are all modes inherently interpersonal or relational? Can a nomothetic taxonomy of modes lead to predictions of typical (and divergent) mode-driven contingent reactions to similar triggers? Relatedly, can idiographic analyses create individualized predictive models of such if-them contingencies (Mischel & Shoda, 1995)? And finally, are mode-based conceptualizations intelligible to patients, do they facilitate clinician-patient communication, and do they benefit treatment outcomes?

References

Abramowitz, J.S., Taylor, S., & McKay, D. (2009). Obsessive–compulsive disorder. Lancet,

374, 491–499. https://doi.org/10.1016/S0140-6736(09)60240-3

Adler, J.M., Chin, E.D., Kolisetty, A.P., & Oltmanns, T.F. (2012). The distinguishing

characteristics of narrative identity in adults with features of borderline personality

disorder: An empirical investigation. *Journal of Personality Disorders*, *26*, 498-512.

https://doi.org/10.1521/pedi.2012.26.4.498

Allport, G.W. (1955). *Becoming*. Yale University Press.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental

disorders* (5th ed.). Arlington, VA: Author.

Arntz, A., & Jacob, G. (2013). *Schema therapy in practice: An introductory guide to the

schema mode approach.* Chichester, UK: Wiley-Blackwell.

Arntz, A., Klokman, J., & Sieswerda, S. (2005). An experimental test of the schema mode

model of borderline personality disorder. *Journal of Behavior Therapy and

Experimental Psychiatry*, *36*, 226-239. https://doi.org/10.1016/j.jbtep.2005.05.005

Asparouhov, T., Hamaker, E. L., & Muthén, B. (2017). Dynamic latent class analysis.

Structural Equation Modeling: A Multidisciplinary Journal, 24, 257-269.

https://doi.org/10.1080/10705511.2016.1253479

Bach, B., & Bernstein, D.P. (2019). Schema therapy conceptualization of personality

functioning and traits in ICD-11 and DSM-5. *Current Opinion in Psychiatry*, *32*, 38-49.

https://doi.org/10.1097/YCO.0000000000000464

Bach, B., & Farrell, J.M. (2018). Schemas and modes in borderline personality disorder: The

mistrustful, shameful, angry, impulsive, and unhappy child. *Psychiatry Research*, *259*,

323-329. https://doi.org/10.1016/j.psychres.2017.10.039

Baker, L. R. (2000). *Persons and bodies: A constitution view. Cambridge studies in philosophy*. Cambridge University Press.

Bandura, A., (1999). Social cognitive theory of personality. In D. Cervone, & Y. Shoda (Eds.), *The coherence of personality: Social-cognitive bases of consistency, variability, and organization* (pp. 185–241). Guilford Press.

Beck, A.T. (1996). Beyond belief: A theory of modes, personality, and psychopathology. In Salkovskis, P.M. (Ed) *Frontiers of Cognitive Therapy*. Guilford Press

Beck, A.T., Finkel, M.R., & Beck, J.S. (2020). The Theory of Modes: Applications to Schizophrenia and Other Psychological Conditions. *Cognitive Therapy and Research*. https://doi.org/10.1007/s10608-020-10098-0

Beck, A.T., & Haigh, E.A. (2014). Advances in cognitive theory and therapy: The generic cognitive model. *Annual review of clinical psychology*, *10*, 1-24. https://doi.org/10.1146/annurev-clinpsy-032813-153734

Berenson, K.R., Downey, G., Rafaeli, E., Coifman, K.G., & Paquin, N.L. (2011). The rejection–rage contingency in borderline personality disorder. *Journal of abnormal psychology*, *120*. 681 –690. https://doi.org/10.1037/a0023335.

Berne, E. (2016). *Transactional analysis in psychotherapy*. Grove Press.

Blatt, S. J. (2008). *Polarities of experience: Relatedness and self definiton in personality depvelopment, psychopathology, and the therapeutic process*. American Psychological Association.

Bleuler, E. (1911). Dementia praecox oder Gruppe der Schizophrenien. Handbuch der psychiatrie.

Block, J. (1961). Ego identity, role variability, and adjustment. *Journal of Consulting Psychology*, *25*, 392-397.

Boog, M., Van Hest, K.M., Drescher, T., Verschuur, M J., & Franken, I.H. (2018). Schema modes and personality disorder symptoms in alcohol-dependent and cocaine-dependent patients. *European Addiction Research*, *24*, 226-233. https://doi.org/10.1159/000493644

Bowlby, J. (1973). *Attachment and loss: Vol. 2. Separation, anxiety, and anger*. Basic Books.

Brewin, C.R., & Holmes, E.A. (2003). Psychological theories of posttraumatic stress disorder. *Clinical psychology review*, *23*, 339-376. https://doi.org/10.1016/S0272-7358(03)00033-3

Bringmann, L. F., Hamaker, E. L., Vigo, D. E., Aubert, A., Borsboom, D., & Tuerlinckx, F. (2017). Changing dynamics: Time-varying autoregressive models using generalized additive modeling. *Psychological Methods, 22*, 409-425. http://dx.doi.org/10.1037/met0000085

Bromberg, P.M. (1998*). Standing in the spaces: Essays on clinical process, trauma, and dissociation*. Analytic Press.

Burger, J., van der Veen, D.C., Robinaugh, D.J., Quax, R., Riese, H., Schoevers, R.A., & Epskamp, S. (2020). Bridging the gap between complexity science and clinical practice by formalizing idiographic theories: a computational model of functional analysis. *BMC medicine*, *18*, 1-18. https://doi.org/10.1186/s12916-020-01558-1

Burton, N. (2005). Finding the lost girls: Multiplicity and dissociation in the treatment of addictions. *Psychoanalytic Dialogues*, *15*, 587-612. https://doi.org/10.1080/10481881509348852

Cassidy, J., Jones, J.D., & Shaver, P.R. (2013). Contributions of attachment theory and research: A framework for future research, translation, and policy. *Development and Psychopathology, 25,* 1415–1434. https://doi.org/10.1017/S0954579413000692

Clark, D.M., & Wells, A. (1995). A cognitive model of social phobia. In R.G. Heimberg, M.R. Liebowitz, D.A. Hope, & F.R. Schneier (Eds.), *Social phobia: Diagnosis, assessment and treatment* (pp. 69–93). New York: Guilford Press.

Coifman, K.G., Berenson, K.R., Rafaeli, E., & Downey, G. (2012). From negative to positive and back again: Polarized affective and relational experience in borderline personality disorder. *Journal of Abnormal Psychology*, *121*, 668–679. https://doi.org/10.1037/a0028502.

Collins, L. M., & Lanza, S. T. (2010). *Latent class and latent transition analysis: With applications in the social, behavioral, and health sciences.* Wiley.

Critchfield, K. L., & Benjamin, L. S. (2010). Assessment of repeated relational patterns for individual cases using the SASB-based Intrex questionnaire. *Journal of Personality Assessment*, *92*, 480-489. https://doi.org/10.1080/00223891.2010.513286

Davies, J. M. (1998). Multiple perspectives on multiplicity. *Psychoanalytic dialogues*, *8*, 195-206. https://doi.org/10.1080/10481889809539241

Davies, J.M., & Frawley, M.G. (1992). Dissociative processes and transference-countertransference paradigms in the psychoanalytically oriented treatment of adult survivors of childhood sexual abuse. *Psychoanalytic Dialogues*, *2*, 5-36. https://doi.org/10.1080/10481889209538920

De Roover, K., Vermunt, J. K., Timmerman, M. E., & Ceulemans, E. (2017). Mixture simultaneous factor analysis for capturing differences in latent variables between higher level units of multilevel data. *Structural Equation Modeling, 24,* 506–523. http://dx.doi.org/10.1080/10705511.2017.1278604

Deleuze, G., & Guattari, F. (1987). *A thousand plateaus: Capitalism and schizophrenia.* University of Minnesota Press.

Dermody, S. S., Thomas, K. M., Hopwood, C. J., Durbin, C. E., & Wright, A. G. (2017). Modeling the complexity of dynamic, momentary interpersonal behavior: Applying the time-varying effect model to test predictions from interpersonal theory. *Journal of research in personality*, *68*, 54-62. http://dx.doi.org/10.1016/j.jrp.2017.03.001

Dimaggio, G., Semerari, A., Carcione, A., Nicolò, G., & Procacci, M. (2007). *Psychotherapy of personality disorders: Metacognition, states of mind and interpersonal cycles.* London: Routledge.

Dimaggio, G., & Stiles, W.B. (2007). Psychotherapy in light of internal multiplicity. *Journal of Clinical Psychology, 63*, 119-127. https://doi.org/10.1002/jclp.20335

Dörfel, D., Lamke, J.P., Hummel, F., Wagner, U., Erk, S., & Walter, H. (2014). Common and differential neural networks of emotion regulation by detachment, reinterpretation, distraction, and expressive suppression: a comparative fMRI investigation. *Neuroimage*, *101*, 298-309. https://doi.org/10.1016/j.neuroimage.2014.06.051

Dunlop, W.L. (2015). Contextualized personality, beyond traits. *European Journal of Personality*, *29*, 310-325. https://doi.org/10.1002/per.1995

Edershile, E. A., & Wright, A. G. (2020). Fluctuations in grandiose and vulnerable narcissistic states: A momentary perspective. *Journal of Personality and Social Psychology*. https://doi.org/10.1037/pspp0000370

Elliott, R., & Greenberg, L.S. (2007). The essence of process-experiential/emotion-focused therapy. *American Journal of Psychotherapy*, *61*, 241-254. https://doi.org/10.1176/appi.psychotherapy.2007.61.3.241

Elliott, R., & Shahar, B. (2017). Emotion-focused therapy for social anxiety (EFT-SA). *Person-Centered & Experiential Psychotherapies*, *16*, 140-158. https://doi.org/10.1080/14779757.2017.1330701

Fairbairn, W. R. D. (1944). Endopsychic structure considered in terms of object-
relationships. *International Journal of Psycho-Analysis*, *25*, 70-92.

Fassbinder, E., Brand-de Wilde, O., & Arntz, A. (2019). Case formulation in schema therapy:
Working with the mode model. In *Case Formulation for Personality Disorders* (pp. 77-
94). Academic Press.

Fisher, A.J., & Bosley, H.G. (2020). Identifying the presence and timing of discrete mood
states prior to therapy. *Behaviour Research and Therapy*, 128, 103596.
https://doi.org/10.1016/j.brat.2020.103596

Fisher, A.J., Medaglia, J.D., & Jeronimus, B.F. (2018). Lack of group-to-individual
generalizability is a threat to human subjects research. *Proceedings of the National
Academy of Sciences*, *115*, E6106-E6115.
www.pnas.org/cgi/doi/10.1073/pnas.1711978115

Fleeson, W. (2001). Toward a structure-and process-integrated view of personality: Traits as
density distributions of states. *Journal of Personality and Social Psychology, 80*, 1011-
1027. https://doi.org/10.1037/0022-3514.80.6.1011

Foa, E.B., & Rothbaum, B.O. (1998). Treating the trauma of rape: cognitive behavioral
therapy for PTSD. New York: Guilford Press.

Fonagy, P., Gergely, G., & Target, M. (2007). The parent–infant dyad and the construction of
the subjective self. *Journal of child psychology and psychiatry*, *48*, 288-328.
https://doi.org/10.1111/j.1469-7610.2007.01727.x

Fonagy, P., & Target, M. (1997). Attachment and reflective function: Their role in self-
organization. *Development and Psychopathology, 94*, 679–700.

Frewen, P., & Lanius, R. (2015). *Healing the traumatized self: Consciousness, neuroscience,
and treatment.* New York: W. W. Norton.

Gabbard, G.O., & Crisp, H. (2018). *Narcissism and its discontents: Diagnostic dilemmas and treatment strategies with narcissistic patients*. Washington, DC: American Psychiatric Association Publishing.

Gallagher, S. (2013). A pattern theory of self. *Frontiers in Human Neuroscience 7*, 443. http://dx.doi.org/10.3389/fnhum.2013.00443

Geldhof, G. J., Preacher, K. J., & Zyphur, M. J. (2014). Reliability estimation in a multilevel confirmatory factor analysis framework. *Psychological Methods*, *19*, 72–91. https://doi.org/10.1037/a0032138

Gershuny, B. S., & Thayer, J. F. (1999). Relations among psychological trauma, dissociative phenomena, and trauma-related distress: A review and integration. *Clinical psychology review*, *19*, 631-657. https://doi.org/10.1016/S0272-7358(98)00103-2

Geukes, K., Nestler, S., Hutteman, R., Küfner, A. C., & Back, M. D. (2017). Trait personality and state variability: Predicting individual differences in within-and cross-context fluctuations in affect, self-evaluations, and behavior in everyday life. *Journal of Research in Personality*, *69*, 124-138. https://doi.org/10.1016/j.jrp.2016.06.003

Giesbrecht, T., Lynn, S.J., Lilienfeld, S.O., & Merckelbach, H. (2008). Cognitive processes in dissociation: An analysis of core theoretical assumptions. *Psychological Bulletin, 134*, 617‑647. https://doi.org/10.1037/0033-2909.134.5.617

Gilbert, P. (2014). The origins and nature of compassion focused therapy. *British Journal of Clinical Psychology*, *53*, 6-41. https://doi.org/10.1111/bjc.12043

Gilbert, P., Baldwin, M.W., Irons, C., Baccus, J.R., & Palmer, M. (2006). Self-criticism and self-warmth: An imagery study exploring their relation to depression. *Journal of Cognitive Psychotherapy*, *20*, 183-200. https://doi.org/10.1891/jcop.20.2.183

Gilboa-Schechtman, E., Keshet, H., Peschard, V., & Azoulay, R. (2020). Self and identity in

social anxiety disorder. *Journal of Personality*, *88*, 106-121.

https://doi.org/10.1111/jopy.12455

Gopnik, A., & Wellman, H.M. (2012). Reconstructing constructivism: Causal models,

Bayesian learning mechanisms, and the theory theory. *Psychological Bulletin, 138*,

1085–1108. https://doi.org/10.1037/a0028044

Greenberg, L.S., & Watson, J.C. (2006). *Emotion-focused therapy for depression.*

Washington DC: American Psychological Association.

Gross, E., Stelzer, N., & Jacob, G.A. (2012). Treating OCD with the schema mode model. In

M. van Vreeswijk, J. Broersen, & M. Nadort (Eds.), *The Wiley handbook of schema*

therapy: Theory, research, and practice (pp. 173–184). Chichester, UK: Wiley & Sons.

Guidano, V.F., & Liotti, G. (1983). *Cognitive processes and emotional disorders: A*

structural approach to psychotherapy. New York: Guilford Press.

Haggard, P., & Eitam, B. (2015). The sense of agency. Oxford University Press.

Hajal, N.J., Teti, D.M., Cole, P.M., & Ram, N. (2019). Maternal emotion, motivation, and

regulation during real-world parenting challenges. *Journal of Family Psychology, 33*,

109-120. http://dx.doi.org/10.1037/fam0000475

Haslbeck, J. M., Bringmann, L. F., & Waldorp, L. J. (2020). A Tutorial on Estimating Time-

Varying Vector Autoregressive Models. *Multivariate Behavioral Research*, 1-30.

https://doi.org/10.1080/00273171.2020.1743630

Haslbeck, J. M. B., Ryan, O., Robinaugh, D., Waldorp, L., & Borsboom, D. (2019, December

10). Modeling Psychopathology: From Data Models to Formal Theories.

https://doi.org/10.31234/osf.io/jgm7f

Hayes, A. M., & Andrews, L. A. (2020). A complex systems approach to the study of change in psychotherapy. *BMC medicine*, *18*, 1-13. https://doi.org/10.1186/s12916-020-01662-2

Heeren, A., & McNally, R.J. (2018). Social anxiety disorder as a densely interconnected network of fear and avoidance for social situations. *Cognitive Therapy and Research*, *42*, 103-113. https://doi.org/10.1007/s10608-018-9952-3

Hermans, H.J. (2001). The dialogical self: Toward a theory of personal and cultural positioning. *Culture & Psychology*, *7*, 243-281. https://doi.org/10.1177/1354067X0173001

Herz, N., Baror, S., & Bar, M. (2020). Overarching States of Mind. *Trends in Cognitive Sciences*, *24*, 184-199. https://doi.org/10.1016/j.tics.2019.12.015

Holmes, E.A., Brown, R.J., Mansell, W., Fearon, R.P., Hunter, E.C., Frasquilho, F., & Oakley, D.A. (2005). Are there two qualitatively distinct forms of dissociation? A review and some clinical implications. *Clinical psychology review*, *25*, 1-23. https://doi.org/10.1016/j.cpr.2004.08.006

Hopwood, C.J. (2018). Interpersonal dynamics in personality and personality disorders. *European Journal of Personality*, *32*, 499-524. https://doi.org/10.1002/per.2155

Hopwood, C.J., Pincus, A.L., & Wright, A.G. (2019). The interpersonal situation: Integrating clinical assessment, formulation, and intervention. In D.B. Samuel and D. Lynam (Eds.), *Using Basic Personality Research to inform Personality Pathology* (pp. 95-121). Oxford University Press.

Horstmann, K. T., & Ziegler, M. (2020). Assessing Personality States: What to Consider when Constructing Personality State Measures. *European Journal of Personality*. https://doi.org/10.1002/per.2266

Howell, E.F., 2013. *The Dissociative Mind*. Routledge, New York, NY.

Hoyle, R., Kernis, M. H., Leary, M. R., & Baldwin, M. W. (2019). *Selfhood: Identity, esteem, regulation*. Routledge.

Hume, D. (1978). *A treatise of human nature.* Oxford University Press. (Original work published 1739)

Jacobs, I., Lenz, L., Wollny, A., & Horsch, A. (2018). The higher-order structure of schema modes. *Journal of personality disorders*, *34*, 348-376. https://doi.org/10.1521/pedi_2018_32_401

Janet, P. (1907). *The major symptoms of hysteria*. Macmillan.

Jacobson, N. C., & Chung, Y. J. (2020). Passive Sensing of Prediction of Moment-To-Moment Depressed Mood among Undergraduates with Clinical Levels of Depression Sample Using Smartphones. *Sensors*, *20*, 3572. https://doi.org/10.3390/s20123572

James, W. (1950). The principles of psychology. Harvard University Press. (Original work published 1890)

Jayawickreme, E., Zachry, C.E., & Fleeson, W. (2019). Whole trait theory: An integrative approach to examining personality structure and process. *Personality and Individual Differences*, *136*, 2-11. https://doi.org/10.1016/j.paid.2018.06.045

Kelly, G.A. (1955). *The psychology of personal constructs* (Vols. 1–2). Norton.

Kernberg, O. F. (1981). Structural interviewing. *Psychiatric clinics*, *4*, 169-195.

Kernberg, O.F., & Caligor, E. (2005). A psychoanalytic theory of personality disorders. In *M.F. Lenzenweger & J.F. Clarkin (Eds.), Major theories of personality disorder (2nd ed., pp. 114– 156)*. New York: Guilford Press.

Kihlstrom, J.F., & Schacter, D.L. (2000). Functional amnesia. In F. Boller & J. Grafman (Eds.), *Handbook of neuropsychology* (2nd ed., pp. 409–427). Elsevier.

Kohut, H., & Wolf, E.S. (1978). Disorders of the self and their treatment: An outline. *The International Journal of PsychoAnalysis, 59*, 413‑425.

Kotov, R., Krueger, R.F., Watson, D., Achenbach, T.M., Althoff, R.R., Bagby, R.M., ... & Eaton, N.R. (2017). The Hierarchical Taxonomy of Psychopathology (HiTOP): a dimensional alternative to traditional nosologies. *Journal of abnormal psychology*, *126*, 454–477. https://doi.org/10.1037/abn0000258

Kross, E., & Ayduk, O. (2017). Self-distancing: Theory, research, and current directions. In J.M. Olson (Ed.), *Advances in Experimental Social Psychology* (Vol. 55, pp. 81–136). Academic Press. http://dx.doi.org/10.1016/bs.aesp.2016.10.002

Krueger, R. F., & Hobbs, K. A. (2020). An Overview of the DSM-5 Alternative Model of Personality Disorders. *Psychopathology*, *53*, 126-132. https://doi.org/10.1159/000508538

Labouvie-Vief, G., & Marquez, M.G. (2004). Dynamic integration: Affect optimization and differentiation in development. In D. Dai & R. Sternberg (Eds.), *Motivation, emotion, and cognition: Integrative perspectives on intellectual functioning and development* (pp. 237–272). Lawrence Erlbaum.

Lane, S. T., Gates, K. M., Pike, H. K., Beltz, A. M., & Wright, A. G. C. (2019). Uncovering General, Shared, and Unique Temporal Patterns in Ambulatory Assessment Data. *Psychological Methods, 24,* 54-69. http://dx.doi.org/10.1037/met0000192

Lazarus, G., Sened, H., & Rafaeli, E. (2020). Subjectifying the personality state: Theoretical underpinnings and an empirical example. *European Journal of Personality*. https://doi.org/10.1002/per.2278

Ledgerwood, D.M., & Petry, N.M. (2006). Psychological experience of gambling and subtypes of pathological gamblers. *Psychiatry research*, *144*, 17-27. https://doi.org/10.1016/j.psychres.2005.08.017

Levy, K.N., Meehan, K.B., Kelly, K. M., Reynoso, J.S., Weber, M., Clarkin, J.F., &

    Kernberg, O. F. (2006). Change in attachment patterns and reflective function in a

    randomized control trial of transference-focused psychotherapy for borderline

    personality disorder. *Journal of consulting and clinical psychology*, *74*, 1027-1040.

    https://doi.org/10.1037/0022-006X.74.6.1027

Linville, P.W. (1987). Self-complexity as a cognitive buffer against stress-related illness and

    depression. *Journal of Personality and Social Psychology, 52*, 663-676.

    http://dx.doi.org/10.1037/0022-3514.52.4.663

Liotti, G., & Gilbert, P. (2011). Mentalizing, motivation, and social mentalities: Theoretical

    considerations and implications for psychotherapy. *Psychology and Psychotherapy:*

    Theory, research and practice, *84*, 9-25. https://doi.org/10.1348/147608310X520094

Lobbestael, J., Van Vreeswijk, M.F., & Arntz, A. (2008). An empirical test of schema mode

    conceptualizations in personality disorders. *Behaviour research and therapy*, *46*, 854-

    860. https://doi.org/10.1016/j.brat.2008.03.006

Lynn, S.J., Maxwell, R., Merckelbach, H., Lilienfeld, S.O., van Heugten-van der Kloet, D., &

    Miskovic, V. (2019). Dissociation and its disorders: Competing models, future

    directions, and a way forward. *Clinical psychology review*, *73*, 101755.

    https://doi.org/10.1016/j.cpr.2019.101755

Lysaker, P.H., & Hermans, H.J. (2007). The dialogical self in psychotherapy for persons with

    schizophrenia: A case study. *Journal of clinical psychology*, *63*, 129-139.

    https://doi.org/10.1002/jclp.20336

Lysaker, P.H., & Lysaker, J.T. (2008). *Schizophrenia and the fate of the self.* Oxford,

    England: Oxford University Press.

Lyssenko, L., Schmahl, C., Bockhacker, L., Vonderlin, R., Bohus, M., & Kleindienst, N.

    (2018). Dissociation in psychiatric disorders: a meta-analysis of studies using the

dissociative experiences scale. *American Journal of Psychiatry*, *175*, 37-46.

https://doi.org/10.1176/appi.ajp.2017.17010025

Mansell, W., Morrison, A. P., Reid, G., Lowens, I., & Tai, S. (2007). The interpretation of,

and responses to, changes in internal states: an integrative cognitive model of mood

swings and bipolar disorders. *Behavioural and Cognitive psychotherapy*, *35*, 515-539.

https://doi.org/10.1017/S1352465807003827

McAdams, D.P. (2013). The psychological self as actor, agent, and author. *Perspectives on

Psychological Science, 8*, 272-295. http://dx.doi.org/10.1177/1745691612464657

McConnell, A.R. (2011). The multiple self-aspects framework: Self-concept representation

and its implications. *Personality and social psychology review*, *15*, 3-27.

https://doi.org/10.1177%2F1088868310371101

Mead, G. H. (1934). *Mind, self, and society*. University of Chicago.

Miller, J. D., Lynam, D. R., Hyatt, C. S., & Campbell, W. K. (2017). Controversies in

narcissism. *Annual Review of Clinical Psychology*, *13*, 291-315.

https://doi.org/10.1146/annurev-clinpsy-032816-045244

Mischel, W., & Shoda, Y. (1995). A cognitive-affective system theory of personality:

reconceptualizing situations, dispositions, dynamics, and invariance in personality

structure. *Psychological review*, *102*, 246-268. https://doi.org/10.1037/0033-

295x.102.2.246.

Nagel, T. (1974). What is it like to be a bat? *The philosophical review*, *83*, 435-450.

https://doi.org/10.1017/CBO9781107341050.014

Nijenhuis, E.R., & Van der Hart, O. (2011). Dissociation in trauma: A new definition and

comparison with previous formulations. *Journal of Trauma & Dissociation*, *12*, 416-

445. https://doi.org/10.1080/15299732.2011.570592

Oakes, J., Pols, R., Lawn, S., & Battersby, M. (2020). The "zone": A qualitative exploratory study of an altered state of awareness in electronic gaming machine problem gambling. *International Journal of Mental Health and Addiction*, *18*, 177-194. https://doi.org/10.1007/s11469-018-9976-7

Osatuke, K., Mosher, J. K., Goldsmith, J. Z., Stiles, W. B., Shapiro, D. A., Hardy, G. E., & Barkham, M. (2007). Submissive voices dominate in depression: Assimilation analysis of a helpful session. *Journal of clinical psychology*, *63*, 153-164. https://doi.org/10.1002/jclp.20338

Osatuke, K., Stiles, W.B., Barkham, M., Hardy, G. E., & Shapiro, D. A. (2011). Relationship between mental states in depression: The assimilation model perspective. *Psychiatry Research*, *190*, 52–59. https://doi.org/10.1016/j.psychres.2010.11.001

Piccirillo, M.L., & Rodebaugh, T.L. (2019). Foundations of idiographic methods in psychology and applications for psychotherapy. *Clinical Psychology Review*, *71*, 90-100. https://doi.org/10.1016/j.cpr.2019.01.002

Pincus, A.L., Cain, N.M., & Wright, A.G. (2014). Narcissistic grandiosity and narcissistic vulnerability in psychotherapy. *Personality Disorders: Theory, Research, and Treatment, 5,* 439‑443. http://dx.doi.org/ 10.1037/per0000031

Prebble, S.C., Addis, D.R., & Tippett, L.J. (2013). Autobiographical memory and sense of self. *Psychological Bulletin, 139*, 815–840. https://doi.org/10.1037/a0030146

Prince, M. (1906). Hysteria from the point of view of dissociated personality. *The Journal of Abnormal Psychology*, *1*, 170–187. https://doi.org/10.1037/h0071515

Putnam, F.W. (1997). *Dissociation in children and adolescents: A developmental perspective.* Guilford Press.

Pugh, M. (2017). Chairwork in cognitive behavioural therapy: A narrative review. *Cognitive Therapy and Research*, *41*, 16-30. https://doi.org/10.1007/s10608-016-9805-x

Putnam, F.W. (1988). The switch process in multiple personality disorder and other state-change disorders. *Dissociation, 1*, 24–32.

Radden, J. (2013). Multiple selves. In S. Gallagher (Ed.), The Oxford handbook of the self (pp. 547–570). Oxford University Press.

Rafaeli, E., Bernstein, D.P., & Young, J. (2011). *Schema therapy: Distinctive features*. Routledge.

Rafaeli, E., Maurer, O., Lazarus, G., & Thoma, N.C. (2016). The self in schema therapy. In M. Kyrios, R. Moulding, G. Doron, N. Nedeljkovic, S.S. Bhar, & M. Mikulincer (Eds.), *The Self in Understanding and Treating Psychological Disorders* (pp. 59–48). Cambridge University Press.

Rafaeli, E., Maurer, O., & Thoma, N. (2014). Working with modes in schema therapy. In N. Thoma & D. McKay (Eds.), *Engaging Emotion in Cognitive Behavioral Therapy: Experiential Techniques for Promoting Lasting Change.* Guilford Press.

Rafaeli-Mor, E., & Steinberg, J. (2002). Self-complexity and well-being: A review and research synthesis. *Personality and Social Psychology Review, 6,* 31-58. https://doi.org/10.1207/S15327957PSPR0601_2

Rauthmann, J.F., Beckmann, N., Noftle, E.E., & Sherman, R.A. (2019). Personality dynamics: A new frontier in personality psychology. *Personality and Individual Differences, 136*, 1. https://doi.org/10.1016/j.paid.2018.07.012

Reise, S. P., Ventura, J., Nuechterlein, K. H., & Kim, K. H. (2005). An illustration of multilevel factor analysis. *Journal of Personality Assessment, 84,* 126–136. http://dx.doi.org/10.1207/s15327752jpa8402_02

Revelle, W. (2007). Experimental approaches to the study of personality. In B. Robins, R. C. Fraley & R. F. Krueger (Eds.), *Handbook of research methods in personality psychology* (pp. 37–61). Guilford Press.

Revelle, W., & Condon, D.M. (2015). A model for personality at three levels. *Journal of Research in Personality*, *56*, 70-81. http://dx.doi.org/10.1016/j.jrp.2014.12.006

Roberts, B.W., & Donahue, E.M. (1994). One personality, multiple selves: Integrating personality and social roles. *Journal of Personality*, *62*, 199-218. https://doi.org/10.1111/j.1467-6494.1994.tb00291.x

Roche, M.J., Pincus, A.L., Hyde, A.L., Conroy, D.E., & Ram, N. (2013). Within-person covariation of agentic and communal perceptions: Implications for interpersonal theory and assessment. *Journal of Research in Personality*, *47*, 445-452. https://doi.org/10.1016/j.jrp.2013.01.007

Ryan, R. M., Deci, E. L., & Vansteenkiste, M. (2016). Autonomy and autonomy disturbances in self-development and psychopathology: Research on motivation, attachment, and clinical process. In D. Cicchetti (Ed.), *Developmental psychopathology* (3rd ed., pp. 385–438). Wiley.

Ryle, A., & Fawkes, L. (2007). Multiplicity of selves and others: Cognitive analytic therapy. *Journal of Clinical Psychology*, *63*, 165-174. https://doi.org/10.1002/jclp.20339

Sass, L.A., & Parnas, J. (2003). Schizophrenia, consciousness, and the self. *Schizophrenia bulletin*, *29*, 427-444. https://doi.org/10.1093/oxfordjournals.schbul.a007017

Schluter, M.G., & Hodgins, D.C. (2019). Dissociative experiences in gambling disorder. *Current Addiction Reports*, *6*, 34-40. https://doi.org/10.1007/s40429-019-0238-y

Schmideberg, M. (1959). The borderline patient. In S. Arieti (Ed.), *American handbook of psychiatry*. New York, NY: Basic Books.

Schwartz, R. C., & Sweezy, M. (2019). *Internal family systems therapy*. Guilford Publications.

Sened, H., Lazarus, G., Gleason, M. J., Rafaeli, E., & Fleeson, W. (2018). The use of

   intensive longitudinal methods in explanatory personality research. *European Journal*

   of Personality, *32*, 269–285. https://doi.org/10.1002/per.2143

Smith, K. W., & Greenberg, L. S. (2007). Internal multiplicity in emotion-focused

   psychotherapy. *Journal of Clinical Psychology, 63,* 175-186.

   https://doi.org/10.1002/jclp.20340

Soffer-Dudek, N. (2014). Dissociation and dissociative mechanisms in panic disorder,

   obsessive–compulsive disorder, and depression: A review and heuristic

   framework. *Psychology of Consciousness: Theory, Research, and Practice*, *1*, 243 -

   270. http://dx.doi.org/10.1037/cns0000023

Somer, E., Altus, L., & Ginzburg, K. (2010). Dissociative psychopathology among opioid use

   disorder patients: exploring the "chemical dissociation" hypothesis. *Comprehensive*

   psychiatry, *51*, 419-425. https://doi.org/10.1016/j.comppsych.2009.09.007

Spiegel, D., Lewis-Fernández, R., Lanius, R., Vermetten, E., Simeon, D., & Friedman, M.

   (2013). Dissociative disorders in DSM-5. *Annual review of clinical psychology*, *9*, 299-

   326. https://doi.org/10.1146/annurev-clinpsy-050212-185531

Spiegel, D., Loewenstein, R. J., Lewis-Fernández, R., Sar, V., Simeon, D., Vermetten, E., ...

   & Dell, P. F. (2011). Dissociative disorders in DSM-5. *Depression and anxiety*, 12,

   E17-E45. https://doi.org/10.1002/da.20923

Stein, M. B., Slavin-Mulford, J., Sinclair, S. J., Chung, W. J., Roche, M., Denckla, C., &

   Blais, M. A. (2018). Extending the use of the SCORS–G composite ratings in assessing

   level of personality organization. *Journal of Personality Assessment*, *100*, 166-175.

   https://doi.org/10.1080/00223891.2016.1195394

Stiles, W. B. (2006). Assimilation and the process of outcome: Introduction to a special

section. *Psychotherapy Research, 16*, 389–392.

https://doi.org/10.1080/10503300600735497

Stopa, L., Brown, M. A., Luke, M. A., & Hirsch, C. R. (2010). Constructing a self: The role

of self-structure and self-certainty in social anxiety. *Behaviour Research and*

Therapy, *48*, 955-965. https://doi.org/10.1016/j.brat.2010.05.028

Sullivan, H. S. (1950). The illusion of personal individuality. *Psychiatry*, *13*, 317-332.

Teasdale, J. D. (1997). The relationship between cognition and emotion: The mind-in-place

in mood disorders. In D.M. Clark & C.G. Fairburn (Eds.), *Science and practice of*

cognitive behaviour therapy (pp. 67-94). Oxford University Press.

Thiel, N., Tuschen-Caffier, B., Herbst, N., Külz, A. K., Nissen, C., Hertenstein, E., ... &

Voderholzer, U. (2014). The prediction of treatment outcomes by early maladaptive

schemas and schema modes in obsessive-compulsive disorder. *BMC psychiatry*, *14*,

362. https://doi.org/10.1186/s12888-014-0362-0

Thewissen, V., Bentall, R. P., Lecomte, T., van Os, J., & Myin-Germeys, I. (2008).

Fluctuations in self-esteem and paranoia in the context of daily life. *Journal of*

Abnormal Psychology, 117, 143–153. https://doi.org/10.1037/0021-843X.117.1.143

Trull, T. J., Lane, S. P., Koval, P., & Ebner-Priemer, U. W. (2015). Affective dynamics in

psychopathology. *Emotion Review*, *7*, 355-361.

https://doi.org/10.1177/1754073915590617

Vater, A., Schröder-Abé, M., Weißgerber, S., Roepke, S., & Schütz, A. (2015). Self-concept

structure and borderline personality disorder: evidence for negative

compartmentalization. *Journal of Behavior Therapy and Experimental Psychiatry*, *46*,

50-58. http://dx.doi.org/10.1016/j.jbtep.2014.08.003

Verheul, R., Andrea, H., Berghout, C. C., Dolan, C., Busschbach, J. J., van der Kroft, P. J., ...

& Fonagy, P. (2008). Severity Indices of Personality Problems (SIPP-118):

Development, factor structure, reliability, and validity. *Psychological Assessment*, *20*, 23–34. https://doi.org/10.1037/1040-3590.20.1.23

Voderholzer, U., Schwartz, C., Thiel, N., Kuelz, A. K., Hartmann, A., Scheidt, C. E., ... & Zeeck, A. (2014). A comparison of schemas, schema modes and childhood traumas in obsessive-compulsive disorder, chronic pain disorder and eating disorders. *Psychopathology*, *47*, 24-31. https://doi.org/10.1159/000348484

Wachtel, P. L. (1994). Cyclical processes in personality and psychopathology. *Journal of Abnormal Psychology, 103,* 51-54. https://doi.org/10.1037/0021-843X.103.1.51.

Walton, G.M., Paunesku, D., & Dweck, C.S. (2012). Expandable selves. In M.R. Leary & J.P. Tangney (Eds.), *Handbook of self and identity (pp. 141–154).* Guilford Press.

Wichers, M., Schreuder, M. J., Goekoop, R., & Groen, R. N. (2019). Can we predict the direction of sudden shifts in symptoms? Transdiagnostic implications from a complex systems perspective on psychopathology. *Psychological medicine*, *49*, 380-387. https://doi.org/10.1017/S0033291718002064

Wilkinson-Ryan, T. & Westen, D. (2000). Identity disturbance in borderline personality disorder: An empirical investigation. *American Journal of Psychiatry, 157*, 528 – 541.

Winograd, R. P., Steinley, D. L., & Sher, K. J. (2014). Drunk personality: Reports from drinkers and knowledgeable informants. *Experimental and clinical psychopharmacology*, *22*, 187-197. https://doi.org/10.1037/a0036607

Wolf, E. J., Lunney, C. A., Miller, M. W., Resick, P. A., Friedman, M. J., & Schnurr, P. P. (2012). The dissociative subtype of PTSD: A replication and extension. *Depression and anxiety*, *29*, 679-688. https://doi.org/10.1002/da.21946

Wright, A. G. C., & Simms, L. J. (2016). Stability and fluctuation of personality disorder features in daily life. *Journal of Abnormal Psychology, 125*, 641–656. https://doi.org/10.1037/abn0000169

Wright, A. G. C., Stepp, S. D., Scott, L. N., Hallquist, M. N., Beeney, J. E., Lazarus, S. A., & Pilkonis, P. A. (2017). The effect of pathological narcissism on interpersonal and affective processes in social interactions. *Journal of Abnormal Psychology, 126*, 898–910. https://doi.org/10.1037/abn0000286

Wright, A. G., & Woods, W. C. (2020). Personalized models of psychopathology. *Annual review of clinical psychology*, *16*, 49-74. https://doi.org/10.1146/annurev-clinpsy-102419-125032

Wylie, R. (1974). *The Self Concept* (Rev. ed., Vol. 1). University of Nebraska Press.

Young, J.E., Klosko, J.S., & Weishaar, M.E. (2003). *Schema therapy: A practitioner's guide.* Guilford.

Zahavi, D. (2008). *Subjectivity and selfhood: Investigating the first-person perspective*. Bradford Books.

Zimmermann, J., Ehrenthal, J. C., Cierpka, M., Schauenburg, H., Doering, S., & Benecke, C. (2012). Assessing the level of structural integration using operationalized psychodynamic diagnosis (OPD): Implications for DSM–5. *Journal of Personality Assessment*, *94*, 522-532. https://doi.org/10.1080/00223891.2012.700664

Zimmermann, J., Woods, W. C., Ritter, S., Happel, M., Masuhr, O., Jaeger, U., ... & Wright, A. G. (2019). Integrating structure and dynamics in personality assessment: First steps toward the development and validation of a personality dynamics diary. *Psychological Assessment*, *31*, 516–531. https://doi.org/10.1037/pas0000625