Modes: Cohesive Personality States and Their Interrelationships as Organizing Concepts in Psychopathology

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We propose a transdiagnostic approach that 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 coactivated. 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 interrelations 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 that lay the foundation for this mode-based approach to psychopathology. We elaborate on this foundation and (in Section 1 of our online supplemental materials) 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 2 of the online supplemental materials) 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.

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—that 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.

Keywords: transdiagnostic model, within-person variability, personality states, multiplicity, psychopathology

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Faust complained 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

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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 interrelationships, 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., 2021; 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—that is, 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 interrelations. In Section 1 of our online supplemental materials, 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 (that is further elaborated in Section 2 of the online supplemental materials).

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 coactivated 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). Each mode "feels different"—that is, 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 that 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 (for example, 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) that 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 that 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 that 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 interpersonality 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 was not me," while knowing full well that it was, in fact, them—that is, their unitary body—speaking or acting. These are common, more subtle, but still quite encompassing shifts in individuals' personality—that is, 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 do not 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 1 of the online supplemental materials.

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) possess, at a minimum, an *embodied* aspect (e.g., Baker, 2000) as well as an *experiential or phenomenological* aspect (e.g., Gallagher, 2013).[1] 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 intermode amnesia or unawareness, 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" (Nagel, 1974) question receives qualitatively different answers in each of the modes.

Developmental Accounts of Modes and Mode Constellations

Little empirical work has expressly examined the development of modes or mode-like constructs and their interrelations. Yet, developmental researchers (e.g., Labouvie-Vief & Marquez, 2004) and theorists from multiple persuasions (e.g., Fonagy & Target, 1997; Putnam, 1988; Ryan et al., 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 that 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 (James, 1890/1950) referred to as the "me"—that is, the objective, known part of personality or the self. McAdams (2013)—like James (1890/1950) before him—pointed out that

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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.

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 coexisting 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) versus *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 (Gilbert et al., 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 (Arntz et al., 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, 2019; Rauthmann et al., 2019) has begun to explore dynamic contextual processes in personality psychology. This literature, which emphasizes ecological validity, often uses 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. 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 versus 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 & Back, 2018) emphasize the dynamic nature of recursive *intraindividual* patterns that give rise to stable patterns of *interindividual* 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 and their subsequent *structure*.[2] 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 metacognition (Dimaggio et al., 2007), the dialogical-self model (Hermans, 2001), the assimilation model (Stiles, 2006), cognitive behavioral therapy (Beck, 1996; Beck et al., 2021; 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 (Rafaeli et al., 2016; Young et al., 2003), to which we will return in some detail in the online supplemental materials 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]; e.g., 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 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—that is, units which are unique, internally cohesive, and to some extent interrelated—and that characteristics of these modes or their interrelations 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 toward 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

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

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—that is, overall structures of (and interrelationships among) modes. In Section 1 of our online supplemental materials, 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., 2021; 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 unparsimonious) 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 interrelationships.

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 metacognitive 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—that is, its ABCDs—or on more generic characteristics that distinguish among modes.

Of course, research on modes should go beyond subjective reports and adopt a multimethod 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 overarching ways. One focuses on the components that make up modes and uses covariance-based methods. The other focuses on generic dimensions that distinguish among modes and uses 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 use 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; Zimmermann et al., 2019) that 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. These can be theory-driven (e.g., multilevel confirmatory factor analysis; Geldhof et al., 2014) or data-driven (e.g., multilevel 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 timepoints 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 (that 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 nontrivial challenge. First, compared with 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., 2020). 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 that 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., 2019). 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 2 of our online supplemental materials, 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.

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