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Connections to, Implications of, and Directions for
a Cybernetic Theory of Psychopathology

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Invited by *Psychological Inquiry*, comment on DeYoung & Krueger (in press)

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The judiciously maligned categorical model of psychopathology provides favorable conditions for integrative and generative dimensional theory such as CB5T (DeYoung, 2015; DeYoung & Krueger, this issue; DeYoung & Weisberg, in press) to significantly impact clinical research and practice. Clinical researchers influenced by personality psychology have been preoccupied in recent decades with identifying a more parsimonious and tractable model of individual differences in psychopathology. However, most of this work has been focused on rearranging the contents of psychopathology to fit evidence-based between-person covariance structures (Kotov et al., 2017; Markon et al., 2006). These models function well as a descriptive framework but fall short of decoding the origins of psychopathology (Durbin & Hicks, 2014) or helping clinicians help patients (First, 2005). By contextualizing behavior and dysfunction in an individual's actual life rather than either settling for broad nomothetic description or appealing to species-level survival goals, CB5T advances both etiological theorizing and the clinical utility of psychiatric diagnosis. Given our enthusiasm for the direction in which DeYoung and Krueger (this issue) point psychopathology research and clinical practice, our goal for this commentary is to expand the reach of CB5T by 1) situating it within three other current streams of personality research and mental health practice, 2) signaling two applied implications for clinical diagnosis, and 3) highlighting two potential future directions inspired by CB5T

Connections

In our reading of CB5T, connections to current threads in personality theory, psychiatric diagnosis, and clinical practice were readily apparent. We begin by underscoring these connections to place CB5T in a broader context.

Dynamic Personality Theories

DeYoung (2015) has built CB5T upon the foundation of a robust lineage of dynamic personality theorists, ranging from the early psychoanalysts (e.g., Fenichel & Rangell, 1995; Loewinger, 1966) to another influential Minnesotan, Auke Tellegen (Tellegen & Waller, 2008; see also Block, 2002, Carver, 2006, Gray, 1990; & Horowitz et al., 2006), who undergirded a description of individual differences with concepts related to goal pursuit. Following Tellegen (Digman, 1990), CB5T integrates the notion of personality as goal-driven system with an evidence-based structure of personality and individual differences, in which an approach motive (variation in which can be roughly summarized by the concept of extraversion or positive affectivity) and an avoidance motive (neuroticism) are modulated by an executive controller (conscientiousness or constraint). Connections can also be drawn between CB5T and the recent emphasis among basic personality psychologists on dynamic and relatively proximal processes hypothesized to give rise to between- and within-person personality variation (e.g., Back et al., 2011; Baumert et al., 2017; Fleeson & Jayawickreme, 2015; Roberts, 2018; Wrzus & Roberts, 2017). We see particularly close links between CB5T and the somewhat more clinically-

based interpersonal theory of personality, which shares the assumptions that personality and psychopathology are of a piece (Leary, 1957; Wiggins & Pincus, 1989), modulated via the dynamics of goal pursuit and frustration (Horowitz et al., 2006) that take the form of a specifiable pattern (Hopwood, in press; Sadler et al., 2009), and that individual differences in stable dispositions for certain patterns both predispose (Pincus & Hopwood, 2012) and contextualize (explain heterogeneity in; e.g., Cain et al., 2011) psychopathology.

DSM-5 Alternative Model for Personality Disorders

Connections to recent developments in psychiatry and clinical psychology are also unmistakable. As discussed by DeYoung and Krueger (this issue), there is significant momentum away from the defunct categorical model of psychiatric disorder toward an evidence-based dimensional model rooted in the between-person covariance structure of stable individual differences in personality and psychopathology (Clark et al., 2017; Harkness et al., 2014; Kotov et al., 2017). But what *is* mental disorder within that framework? Like CB5T, the DSM-5 Alternative Model for Personality Disorders (AMPD; APA, 2013) asserts that psychopathology cannot be defined based on trait extremity alone; there must be some independent assessment of dysfunction. The AMPD distinguishes between personality dysfunction - Criterion A - and traits - Criterion B. Criterion A measures difficulties in the capacity to form effective mental representations of self in relation to other (Bender et al., 2011); with

cybernetic and psychoanalytic terminology swapped, this can be roughly translated as “personality disorder means the chronic failure to achieve interpersonal goals”. Criterion B is measured via a five-factor trait model (Krueger et al., 2012). The presence of a congenial model in the official diagnostic lexicon (albeit shoved rather discourteously to the back of the book; Zachar, Krueger, & Kendler, 2016) affords CB5T an opportunity to make significant inroads into mainstream clinical practice. As with basic personality theories, the fusion of CB5T and AMPD approaches to understanding personality and related pathology seems both conspicuous and constructive.

Clinical Practice

Finally, the consilience between CB5T and what probably already happens in clinical practice is easily discerned. DeYoung and Krueger (this issue) correctly underscore that a clinical assessment should focus on an individual’s goals within her particular life context. But what clinician is fully satisfied with the descriptive DSM (or descriptive trait models, for that matter)? We observe that the research-practice gap is buttressed by a relatively one-sided dialogue, in which researchers too often prioritize speaking over listening to clinicians who focus mainly on listening but who are also capable of ignoring what they find unhelpful. Researchers typically see closing the research gap as a matter of transporting new discoveries into clinical practice, rather than serving the needs of clinicians as clinicians perceive them, and this can at times come across as naïve. For

example, DeYoung and Krueger (this issue) hypothesize that pharmaceutical and talk therapy can be matched to more temperamental vs. situational problems, respectively, about which we are skeptical. We don't wish to split hairs, but rather to suggest that a coordinated effort to determine the needs of practicing clinicians working with different populations in various contexts would have significant value for researchers interested in serving clinicians at the front lines of the mental health problem. At a broader level, an improved understanding of the qualitative ins-and-outs of clinical practice and the *in situ* thoughts, behaviors, and feelings of dysfunctional populations can provide ample theoretical fodder for personality psychology as a whole.

Summary

The most creative contribution of CB5T lies not in its novelty but in its elegant synthesis of contemporary and historical threads in personality theory, psychiatric and diagnosis, and clinical practice. Systematically integrating both the language and assumptions of CB5T with neighboring approaches and practices would be a useful project that could expedite the identification of consensual positions, frame testable hypotheses where different bets can be specified, and enhance productive dialogue between scientists and practitioners.

Diagnostic Implications

In this section, we illuminate two implications for CB5T to which DeYoung and Krueger (this issue) were only able to hint at given their

limited space. Both have to do with diagnosing individuals juxtaposed in a society. We think these issues represent generative areas for further consideration, and that CB5T casts them in a somewhat new and potentially informative light. Our primary motivation in raising them is our curiosity about the authors' and others' thoughts on these issues.

A Social Justice Approach to Diagnosis

DeYoung and Krueger (this issue) correctly note that goal pursuit can be fettered by societal factors outside of the individual, as is often the case among the underprivileged. A consequence of defining psychopathology in terms of goals is that any obstacles to goal pursuit should present a risk factor for psychopathology. DeYoung and Krueger (this issue) accordingly adopt a middle ground between conceptualizing psychopathology from purely value-based (societal) and objective (internal/reductionistic) perspectives, describing diagnostic thresholds as a “pragmatic matter.” At the same time, they say that “Society...can contribute causally to psychopathology, but it does not provide criteria for psychopathology.” Associations between social status and psychopathology being well-established (Gilman et al., 2002), why shouldn't deficits in power and privilege be a diagnostic marker for mental illness? If pathology were defined in terms of individual goals, we should expect that lower individual risks (specifically, trait levels) would be necessary to interfere with goal pursuit and thus achieve a diagnosis in low relative to high privilege groups. Such factors are routinely and necessarily considered in applied practice,

and doing so in a diagnostic manual would help the field move away from a reductionist and towards a more socially just, contextually informed approach to diagnosis, particularly inasmuch as diagnosis is a pathway to the provision of mental health services for those who need them most.

Diagnosis and the Law

The overlap of social values and psychiatric classification is inescapable in a forensic context: Should a person who offends social standards escape punishment because of diagnosed mental illness? Can we use psychiatric diagnoses to distinguish one offender from another in terms of culpability? Should society admonish the alcoholic who can achieve her own goals (to stay drunk), but whose behavior disrupts the lives of others¹? The general form of this question is: what happens when an individual's goals conflict with the goals of broader society? CB5T answers by restricting the boundaries of psychopathology to cybernetic dysfunction, which contains an individual's goals but not the goals of others. Alluding to the "successful psychopath", DeYoung and Krueger (this issue) state that "such behavior is not inherently psychopathological, and preventing it is best considered a legal matter." We presume more nuance on this issue than implied by this single statement quoted out of context, but in general would assert that distressing others should rightly remain in bounds as a potential diagnostic marker. Demarcating mental health in terms of distress caused to

¹ Or self? One of the first author's most profound clinical experiences was obtaining a court order to restrain a woman who insisted violently on being taken off of dialysis, the cost of which was certain death, so that she could go home to have a drink.

self as opposed to others creates the potential for value judgment based on the differential consequences of internalizing and externalizing problems. As an alternative, we wonder if each society itself has a cybernetic structure that could be reconciled with the model of individuals offered by CB5T. It follows that some forms of psychopathology could interfere with a society's goals. Conceptualizing societies as cybernetic systems may allow for, and point to, innovative approaches that match the breadth of intervention (e.g., individual vs. social) to the breadth of cybernetic dysfunction.

Future Directions

Two frontlines in the battle to understand human behavior involve establishing cross-sectional associations extrapolate to longitudinal processes and how reliable nomothetic findings apply to individuals. We hope it is not too cliché to add to the chorus here, in light of CB5T.

Longitudinal Research

We identified four ways in which CB5T could both inform and benefit from longitudinal research. First, CB5T posits that causal paths between traits and characteristic adaptations are bidirectional, staking its claim in the active literature dedicated to discerning the relative importance of bottom-up and top-down explanations for personality stability and change. This question is central for any clinician - to what extent will narrow, targeted tweaks to a participant's behavior impact broader patterns of personality? Recent theoretical work has stressed the specific mechanisms by which proximal changes in affect, behavior, and cognition may filter up

and metastasize into broad dispositional change (Henneke et al., 2014; Hopwood, in press; Roberts, 2017; Wrzus & Roberts, 2017; see also McCrae & Costa, 2008). However, theoretical development has rapidly outpaced empirical research into the presence, directionality, and size of the associations between trait change and characteristic adaptation change.

Second, recent research into the extent to which people desire personality change and their attempts to enact this change offers unique insights into the nature of personality development (Hudson and Fraley, 2015; 2016; Roberts et al., 2017). As this line of research becomes more nuanced, CB5T can help contextualize findings in terms of an individual's goals, which may not be well-characterized by nomothetic assessment approaches. We were particularly intrigued by the hypothesized correspondence between different levels of the personality hierarchy and the durability of a person's goals. Further, we find CB5T's assertion that individual's goals vary in breadth and timescale and the specification of patterned processes by which they are achieved or obstructed particularly fertile in terms of linkages with volitional personality change.

Third, CB5T provides a useful model for distinguishing between dispositions (traits) and psychopathology (characteristic maladaptations). It is notable that developmental theorists emphasize the attainment of a set of age-appropriate goals (e.g., Erickson, 1959), whereas personality psychologists have observed a relatively modest and continuous trajectory of trait development that seems to support goal achievement (Denissen,

Aken, Penke, & Wood, 2013; Roberts, Walton, & Viechtbauer, 2006). This pattern may suggest that unique and individualized goals that shift qualitatively across the lifespan are nevertheless closely intertwined with normative traits that wax and wane more gradually. This hypothesis could be tested in longitudinal research with measurements sensitive to the distinction between traits and characteristic adaptations offered by CB5T.

Fourth, theories of normative personality development can be enhanced by considering the dynamics and desirability of entropic forces across the lifespan. Entropy may be relatively advantageous for young adults who are rewarded more for approaching than avoiding novel love and work experiences (Arnett, 2007), and relatively harmful for those who have cocooned themselves in stable interpersonal and career environments. It may be that a normative spike in entropy that typically occurs as emerging adults leave home explains variability in personality development trajectories among young adults (Schwaba & Bleidorn, 2017). This normative entropy spike could help explain the characteristic onset of mental health problems during this life stage. Likewise, encroaching old age may bring additional entropy in terms of variability in biological aging and the onset of functional difficulties.

Idiographic Research

Idiographic processes are central to both clinical practice and the CB5T assertion that characteristic adaptations should be understood at the level of the individual, but they have generally been undervalued in

research because of preoccupations with generalizability across people (Borkenau & Ostendorf, 1998; Molenaar, 2004). To the extent that nomothetic models do not correspond to or inform idiographic within-person dynamics, clinicians will find them lacking. Ultimately, a comprehensive model would integrate nomothetic variables, which provide a general structure that tell the clinician what to measure, with dynamic processes that may or may not generalize from one patient to another (Hopwood et al., 2015). CB5T does this by organizing the dynamics of goal pursuit and achievement around the structure of the Big 5 and by isolating a sequence that is nomothetic in broad strokes but could explain idiographic patterns (goal activation -> action selection -> action -> outcome interpretation -> goal comparison; see also Hopwood, in press and Wrzus & Roberts, 2017). In general, we think that CB5t takes the right tack here, and provides a highly generative albeit abstract framework for the synthesis of nomothetic and idiographic approaches to understanding variation in human behavior and problems.

Conclusion

The literature on psychopathology and mental health diagnosis is paradoxically both transformative because the political nature of the endeavor makes change agonizingly slow and musty because the major recent innovation, being descriptive and not explanatory, is of only tenuous clinical value. CB5T offers a useful antidote to this paradox by providing a generative, mechanistic, and testable model that both describes and

explains variation in dysfunction. Our goal in this commentary has been to promote CB5T by connecting it to streams of thought in personality, diagnosis, and clinical practice, highlighting two specific implications for applied diagnosis, and suggesting ways in which CB5T can be used to frame future research on longitudinal and idiographic processes.

We conclude with a plea for the field to shift its focus to measurement. CB5T has much to offer in framing the central questions of this tremendously complicated task. How do we reliably distinguish traits and characteristic adaptations, measure goals and goal pursuit, account for different levels of time, distinguish conscious processes from non-conscious processes and perceptions from behavior? The key practical implication of CB5T should be to elevate the importance of advancing our assessments to match the sophistication of its hypotheses about how and why people have difficult times achieving their goals.

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