

DSM-5 and the Path Toward Empirically Based and Clinically Useful Conceptualization of Personality and Psychopathology

Robert F. Krueger, Department of Psychology, University of Minnesota

Christopher J. Hopwood, Department of Psychology, Michigan State University

Aidan G. C. Wright, Department of Psychology, University of Pittsburgh

Kristian E. Markon, Department of Psychology, University of Iowa

The *DSM-5* represents a watershed in the history of mental disorder classification systems because it is the first *DSM* to incorporate an approach to clinical personality description tied directly to the empirical structure of personality. Personality disorder (PD) constructs in previous editions of the *DSM* were produced on the basis of putative authority, as opposed to being based on research on the way personality is organized in nature. By contrast, *DSM-5* contains elements that were developed using data, such as a model of clinically relevant dimensional personality specifiers that constitutes part of a *DSM-5* Section III PD diagnosis. In this article, we review the *DSM-5* Section III PD model, focusing on how it contrasts with the *DSM-IV* PD model (reprinted in Section II of *DSM-5*). We conclude that personality science is leading research and practice in clinical psychology because it provides an evidence-based approach to comprehensive classification of psychopathology.

Key words: categories, classification, dimensions, mental disorder, nosology, personality disorder. [*Clin Psychol Sci Prac* 21:245–261, 2014]

Address correspondence to Robert F. Krueger, Department of Psychology, University of Minnesota, 75 E. River Rd., Minneapolis, MN 55455. E-mail: krueg038@gmail.com.

Personality is a central construct in clinical psychology and with good reason. In addition to the central relevance of personality assessment in many clinical practices, personality features and mental disorders are closely intertwined (Kotov, Gamez, Schmidt, & Watson, 2010). In working to understand and help our patients and clients, we need to know not just their putative diagnoses, but also how their personalities—their persistent patterns of thought, affect, and behavior—shape their clinical presentations. Given the relevance of the *DSM* to mental health practice, it would be helpful if the *DSM* provided a clinically useful and empirically based approach to conceptualizing personality and the ways in which personality can become disordered. In this article, we describe ways in which the *DSM-5* Section III (American Psychiatric Association [APA], 2013) approach to personality and personality disorders (PDs) may be helpful in moving toward an empirically based and clinically useful approach to conceptualizing personality in clinical settings. To set the stage, we begin by briefly reviewing the well-known limitations of the *DSM-IV* PD system (reprinted in *DSM-5* Section II).

The *DSM-IV-TR* (APA, 2000) paid a modest amount of attention to the relevance of personality in clinical settings, primarily inasmuch as it described 10 PDs. In *DSM-IV*, PDs, like other *DSM-IV*-defined mental disorders, were *categorical* and *polythetic* with *arbitrary thresholds* for rendering a diagnosis. By *categorical*,

we mean that all mental disorders in *DSM-IV* were presumed, on an a priori basis, to be categories. For example, using the *DSM-IV* system, disorders such as borderline PD and antisocial PD are dichotomous; a patient either has the diagnosis or he or she does not. By *polythetic*, we mean that a variety of combinations of criteria can justify the same categorical label. For example, in *DSM-IV*, obsessive-compulsive PD (OCPD) was conceptualized in terms of eight criteria, and any four of those eight criteria were deemed sufficient for a diagnosis. A patient who shows the first four of eight criteria would be considered diagnostically equivalent to a patient who shows the last four of eight criteria, even though those two patients have zero criteria in common. Indeed, very little emphasis was placed on using empirical criteria for establishing the *thresholds* for the *DSM-IV* PDs (e.g., four of eight criteria required for OCPD). Specifically, efforts were made during the development of *DSM-III* to identify thresholds only for borderline and schizotypal PD, with the aim of producing rates similar to those gleaned from clinical impressions (Spitzer, Endicott, & Gibbon, 1979), with thresholds for the other PDs appearing to be entirely arbitrary (Widiger, 2001). Moreover, the criteria for PDs changed somewhat from *DSM-III* to *DSM-IV*, with no corresponding attempt we are aware of to provide an empirical basis for any of the *DSM-IV* thresholds (albeit Widiger et al., 1996, describe workgroup deliberations associated with examining field trial data and adjusting thresholds for *DSM-IV* antisocial PD to be consistent with *DSM-III-R*). Numerous problems result from having arbitrary thresholds; for example, Cooper and Balsis (2009) studied schizoid PD criteria and showed that many patterns of endorsement corresponding with three criteria (one below the diagnostic threshold) were indicative of *greater* severity than patterns of endorsement corresponding with four criteria (the diagnostic threshold).

The *DSM-IV* PD system is not different in fundamental ways from either *DSM-III* or *DSM-III-R*, and *DSM-III* was published in 1980 (for simplicity, we will refer to these systems collectively as “the categorical *DSM* PD system” from this point forward). An extensive series of literature reviews were conducted for *DSM-IV* (Gunderson, 1996), but these were constrained on an a priori basis by the unquestioned

assumption that the 10 *DSM-IV* PD categories provided an accurate structural framework for understanding PD. Indeed, over 30 years have elapsed since the publication of the categorical *DSM* PD system, providing ample opportunity for empirical study. The literature on this system is very clear in showing that it is fundamentally broken. Here, we briefly consider the clinically salient issues of *comorbidity*, within-category *heterogeneity*, and the empirical *continuity* versus *discontinuity* of specific PDs (evidence on whether *DSM* PDs are categories in nature). We focus on these issues because they are part and parcel of routine clinical activity, and considering them together clearly illustrates why and how the categorical *DSM* PD system has little to no basis in data and is also unworkable in the clinic (Verheul, 2005).

Comorbidity

Comorbidity is an appropriate term when distinguishable disorders (e.g., in the sense of having distinguishable pathophysiology or etiology) co-occur in the same person (Lilienfeld & Waldman, 2004). Nevertheless, the term has also been used to describe the tendency for *DSM*-defined disorders to co-occur at greater than chance levels in a sample of persons from a defined population. Levels of comorbidity (understood as greater than chance co-occurrence) among categorical *DSM* PDs are high enough that assigning a “single best focal diagnosis” is typically impossible in practice. Interestingly, this evidence was summarized in the *DSM-IV Sourcebook* (Gunderson, 1996). Specifically, the *Sourcebook* notes, “The average number of PD diagnoses per patient in inpatient samples has ranged from 2.8 (Zanarini et al., 1987) to 4.6 (Skodol et al., 1988). The weak evidentiary base for the existing definitions and the documentation of problems with overlap and coverage were reasons for the committee to consider making radical changes” (Gunderson, 1996, p. 648). In essence, when the modal number of disorders for a given patient is four or so, meaningful case conceptualization in terms of *DSM* PDs becomes difficult at best. If the modal patient has a “quadrимorbid” PD diagnostic profile, should we attempt to provide four distinguishable interventions tailored to each putative category? Such an endeavor would be challenging not just from a case conceptualization standpoint, but also because there is little to no

research to guide efforts to intervene with most *DSM-IV*-defined PDs, because the vast majority of treatment research has focused solely on borderline PD (Matusiewicz, Hopwood, Banducci, & Lejuez, 2010).

Within-Category Heterogeneity

In addition to the problem of comorbidity, groups of persons who meet criteria for a specific *DSM* PD are heterogeneous in important respects. One way in which this happens stems directly from the comorbidity phenomenon. If the modal number of PD diagnoses is around four, members of a specific category are heterogeneous simply by virtue of the comorbid diagnoses that cloud the diagnostic picture.

Heterogeneity is also apparent when persons meeting criteria for a specific *DSM* PD are systematically studied. Borderline PD, for example, has been studied in this way, and numerous clinically important distinctions are seen within this group. Wright, Hallquist, et al. (2013), for example, identified six distinguishable subgroups within a group of patients who met criteria for borderline PD, differing notably in terms of such clinically consequential areas as antisocial behavior, self-injury, and past suicide attempts. The intent of assigning categorical PD labels to patients is presumably clinical communication, but the literature shows that important individual differences in consequential propensities (e.g., self-harm) exist within persons who meet criteria for a specific *DSM*-defined PD. The clinical utility of communicating in terms of specific *DSM* PD labels is thereby undermined not only because four or so labels are appropriate for most PD patients, but also because patients who qualify for any one of those labels differ markedly in clinically important features.

Continuity Versus Discontinuity of *DSM* PDs

Problems such as comorbidity and heterogeneity stem directly from imposing categorical distinctions where such distinctions may not exist in nature (Eaton, Krueger, South, Simms, & Clark, 2011; Walters & Ruscio, 2013). That is, the issue of whether PD is categorical versus continuous is amenable to empirical inquiry. Essentially, models positing either type of variation (e.g., latent class and latent trait models), and also a mix of both types of variation (hybrid models), can be

fit to data to determine which model fits better. When this is done with data on PD and related psychopathology, models positing continuous variation tend to fit better (Conway, Hammen, & Brennan, 2012; Hallquist & Wright, 2014; Krueger, Markon, Patrick, & Iacono, 2005; Markon & Krueger, 2005). Related approaches such as Paul Meehl's taxometric methods also rarely find evidence of replicable discrete PD groups, albeit evidence for taxonicity has sometimes been suggested in the realm of schizotypal phenomena (for a quantitative review, see Haslam, Holland, & Kuppens, 2012). Nevertheless, a recent study in two large epidemiological samples, using both taxometric and latent variable mixture modeling approaches, found little evidence to support discrete models of schizotypal PD and notably better validity for a dimensional model in predicting psychosis, intellectual functioning, disability, and treatment seeking (Ahmed et al., 2013).

The absence of evidence for discontinuities in extant data should not, however, be interpreted to mean that this matter is completely settled or that integrated accounts of both discrete and continuous aspects of human variation cannot be articulated (Hallquist & Wright, 2014; Wright & Hallquist, 2014). For example, much of the extant literature is limited to cross-sectional data obtained through self-reports or patient interviews (which are essentially self-reports, albeit filtered through the interview process). Novel longitudinal data, particularly of a fine-grained nature (e.g., data collected using ambulatory assessment; Trull & Ebner-Priemer, 2013), could, in theory, reveal meaningful patterns of both continuities and discontinuities. This is an open question because the technologies needed to study finer-grained personality processes as they unfold in daily life are newer than other assessment modalities (e.g., questionnaires and interviews). These newer methods have great potential to clarify our understanding of patterns of continuity and discontinuity in personality processes as they emerge in daily life.

The general point, however, is that classification rubrics are better derived from data, as opposed to being derived from a priori disciplinary preferences. Classification systems can be developed empirically, based on scientific inquiry into the nature of psychopathological variation. To date, little evidence for categorical variation has been adduced, and hence, any

classification system that purports to have a meaningful connection with the contemporary empirical literature should not be framed primarily by categorical concepts. Moreover, the disorders described in the *DSM* have not been shown to be categorical in nature, in spite of the *DSM*'s a priori imposition of categorical assumptions, placing *DSM categories* at odds with an extensive empirical literature.

Importantly, the phenomena described in the *DSM* are central to public health—no sensible person would question the reality and relevance of psychopathology in modern society, much less seriously debilitating forms such as PDs. For example, in a large sample of carefully assessed psychiatric outpatients, those who were evaluated as meeting one criterion from *DSM-IV*-defined borderline PD had significantly more suicide attempts, suicidal ideation at the time of evaluation, psychiatric hospitalizations, and time missed from work due to mental illness, compared with those evaluated as meeting none of the *DSM-IV*-defined borderline PD criteria (Zimmerman, Chelminski, Young, Dalrymple, & Martinez, 2012). In essence, psychopathology—even levels well below the arbitrary *DSM-IV* thresholds—is sufficiently important that its classification would be better informed by contemporary empirical and quantitative approaches, as opposed to being derived through committee deliberations conjoined with political processes and research constrained by untested assumptions, such as the assumption that arbitrary thresholds on criterion counts delineate categories in nature (the traditional *DSM* approach to classification).

Nevertheless, although evolution is needed, this evolution would be impossible without building on and respecting the extensive effort devoted to the construction of previous classification systems, such as *DSM-IV*. The value of earlier efforts is readily apparent because, without data on the PD constructs of prior editions of the *DSM*, there would be no basis for identifying limitations and, therefore, opportunities for improvement. The sociopolitical challenge in the field is that the limitations of the *DSM-IV* PD system are abundantly clear, yet some scholars whose careers were closely connected with the *DSM-IV* paradigm remain wedded to that paradigm. Nevertheless, in light of the evidence reviewed above, viewing *DSM-IV* as

sacrosanct is not in the best interests of the field or our patients. Challenges such as comorbidity, heterogeneity, and the dimensional nature of psychopathology—revealed through fundamentally valuable research on *DSM-IV* constructs conducted by numerous and diverse investigators—must now be surmounted. As emphasized by *DSM-5* PD workgroup chair Andrew Skodol (Skodol, Morey, Bender, & Oldham, 2013), and also by former NIMH director Steven Hyman (2010) with respect to the reification of *DSM-IV* categories more broadly, “it is time to move on.”

PERSONALITY AND PDS IN *DSM-5*

Because the categorical *DSM* system for PD diagnosis is fundamentally broken, the *DSM-5* process began from a different starting point than *DSM-IV*. Importantly, the above observations about PDs are not limited to PD and pertain essentially to the entire *DSM* approach to mental disorder classification. That is, problems with comorbidity, heterogeneity, and categorical assumptions that do not accord with the evidence occur throughout the entire *DSM* (e.g., as noted by Hyman, 2010). Indeed, NIMH has now parted ways with the American Psychiatric Association (publishers of the *DSM*) and seeks to develop its own dimensional and neuroscientific approach to studying psychopathology, the Research Domain Criteria Initiative (RDoC; see MacDonald & Krueger, 2013, for a recent special section of the *Journal of Abnormal Psychology* focused on RDoC and Maj, 2014, for an RDoC-focused special section of the journal *World Psychiatry*).

Recognizing the fundamentally broken nature of *DSM-IV*, the *DSM-5* construction process began from a stance of openness to new ideas about classification, particularly dimensional ideas. For example, *DSM* leadership worked to develop dimensional assessment tools for *DSM-5*: “The cross-cutting symptom measures tested in the *DSM-5* Field Trials represent a first step in moving psychiatric diagnosis away from solely categorical descriptions toward assessments that recognize different levels of symptom frequency and intensity” (Narrow et al., 2013, p. 80). In addition, the *DSM-5* Task Force cochairs (Drs. Kupfer and Regier) clearly recognize how psychiatry is out of step with modern medicine, for example, in the way other specialties have embraced the clinical utility of dimensions:

“Many of the revisions in *DSM-5* will help psychiatry better resemble the rest of medicine, including the use of dimensional (e.g., quantitative) approaches” (Kupfer, Kuhl, & Regier, 2013, p. E1).

Nevertheless, in spite of the tireless efforts of Drs. Regier and Kupfer, the *DSM-5* construction process became increasingly conservative and reactionary as it iterated forward, resulting in the final *DSM-5* being split into two distinguishable sections. Section II, labeled “diagnostic criteria and codes,” perpetuates the categorical *DSM-IV* paradigm, whereas Section III, labeled “emerging measures and models,” presents a series of dimensional alternatives to traditional *DSM* categories (e.g., the aforementioned cross-cutting assessment tools). The more dimensionally oriented PD system developed for *DSM-5* was caught in this cross fire (Skodol et al., 2013). For example, it was approved for inclusion in *DSM-5* Section II by the *DSM-5* Task Force, but not by the American Psychiatric Association’s Board of Trustees. As a result of these complex political dynamics, the *DSM-5* PD model appears in Section III (referred to hereafter as the *DSM-5* Section III PD system), whereas the categorical *DSM-IV* PD system is reprinted essentially verbatim in Section II (with only minor changes to accommodate *DSM-5* conventions; for example, PD not otherwise specified, the most common diagnosis in *DSM-IV*, appears as unspecified or other specified PD).

The *DSM-5* Section III PD System

The *DSM-5* Section III PD system contains three basic elements. First, this system contains a dimensional model of pathological personality specifiers that was developed empirically. Briefly, much discussion in the PD workgroup centered on the characteristics of patients with psychopathological tendencies that fell within the workgroup’s bailiwick. Traditionally, in the *DSM* construction process, these sorts of discussions are used to develop criteria sets directly. Workgroups assemble their discussions into criteria sets on a rational basis, and those criteria sets are reviewed by other committees in a political process that eventuates in a published nosology. That is, traditionally, the *DSM* was developed through a process of *clinical authority*, under the a priori assumptions that all mental disorders are dichotomous and polythetic (or monothetic; i.e.,

for some disorders, all criteria are considered necessary and sufficient to justify a specific diagnosis). Literature reviews and field trials are also conducted. Indeed, the *DSM-IV* literature reviews were an extensive element of the *DSM-IV* revision effort (Gunderson, 1998) and more scholarly and comprehensive than the web postings that occurred during the construction of *DSM-5* (as emphasized by Blashfield & Reynolds, 2012, and Krueger, 2013). However, *DSM-IV* efforts were constrained by unevaluated assumptions that do not accord with the contemporary scientific literature (e.g., the assumption that mental disorders are dichotomies, conjoined with the imposition of arbitrary thresholds on criterion counts to delineate these putative dichotomies). By contrast, the model of pathological personality specifiers in *DSM-5* Section III was developed using data obtained from persons who sought mental health services, without the a priori imposition of the assumption of dichotomous diagnoses, nor an attempt to impose arbitrary thresholds on continuous clinical phenomena.

Second, the *DSM-5* Section III PD system encompasses an overall dimension of personality functioning, ranging from little to no impairment, to extreme personality impairment. Third, it recreates *DSM-IV* PD categories from mixtures of impairment (Criterion A for specific PDs) and specifiers (Criterion B for specific PDs). For example, *DSM-IV*-defined borderline PD can be reconstructed by noting that this diagnosis encompasses significant impairment in functioning (Criterion A), accompanied by specific pathological personality variants (tendencies to display specific negative emotions and disinhibited behaviors and to act toward others in an antagonistic fashion, that is, specific Criterion B specifiers). These specifiers are often referred to as “traits” because they resemble constructs from the extensive empirical literature on the organization of human personality traits (Costa & Widiger, 2012); indeed, even the text of *DSM-IV-TR* describes its approach to PDs as based on traits (APA, 2000, p. 686). However, it is important to emphasize that they differ in important ways from human physical traits such as height that are difficult to modify on an individual basis. For example, population variation in these domains results from a constant interplay of *both* genetic and environmental forces (Krueger, South,

Johnson, & Iacono, 2008), and, moreover, psychological “traits” are not fixed and unchanging in specific individuals. For example, the domain of negative emotions or neuroticism is clearly amenable to both psychosocial and psychopharmacologic interventions (Barlow, Sauer-Zavala, Carl, Bullis, & Ellard, 2013; Tang et al., 2009).

The dimensional model of pathological personality variants in *DSM-5* (Criterion B) is particularly unique relative to traditional *DSM* rubrics because it was developed through a process of *empirical research* (as opposed to being developed through a process of *clinical authority*). Workgroup members and consultants provided ideas about the characteristics of PD patients, and the relevant literature was also reviewed, along with ensuring that the resulting list of characteristics covered the criteria for *DSM-IV* PDs (for details, see Krueger, Derringer, Markon, Watson, & Skodol, 2012). These ideas were then operationalized, such that their patterning could be studied. The empirical model that resulted from this effort closely resembled other empirical models of clinically relevant personality variation, but not the *DSM-IV* categorical model (which is not surprising inasmuch as the *DSM-IV* model was not developed on an empirical basis). Empirical models were summarized early in the *DSM-5* process by Widiger and Simonsen (2005), and these models as well as the *DSM-5* model converge around five broad domains of personality variation: (a) a tendency to experience diverse negative emotions versus being emotionally stable; (b) a tendency to withdraw from social contact versus being socially engaged; (c) a tendency to behave antagonistically toward others versus being more agreeable; (d) a tendency toward disinhibited expression of impulses versus being more planful; and (e) a tendency toward cognitive dysregulation and problems with reality testing versus lucidity in thought content and process.

These domains also coalesce into more inclusive spectra of variation at higher levels of a comprehensive hierarchy of personality and psychopathology, which we describe in greater detail below. For example, the *internalizing spectrum* encompasses negative emotions and social withdrawal, and the *externalizing spectrum* encompasses antagonistic and disinhibited tendencies. These larger spectra can also be discerned from patterns

of comorbidity among *DSM*-defined mental disorders that are common in the general population (Kendler & Myers, 2014).

The Personality Inventory for *DSM-5* (PID-5; Krueger et al., 2012) was created to operationalize the *DSM-5* model of pathological personality variants. The American Psychiatric Association has made the PID-5 freely available to interested clinicians and researchers (at <http://www.psychiatry.org/practice/dsm/dsm5/online-assessment-measures#Personality>). It is available in both self-report and informant report versions and has been deemed acceptable for use with adolescents as well. More broadly, readers are encouraged to consult *DSM-5* directly for a complete description of the *DSM-5* Section III PD system (pp. 761–781). We turn now to provide a brief review of emerging research on the *DSM-5* Section III PD system.

RESEARCH ON COMPONENTS OF THE *DSM-5* SECTION III PD SYSTEM

Criterion A: Levels of Personality Functioning

Authors from various theoretical perspectives have emphasized the importance of distinguishing diagnostic severity, or the overall level of personality pathology, from the stylistic manner with which that severity is expressed (Livesley & Jang, 2000; Parker et al., 2004; Pincus, 2005; Tyrer, 2005). Although these features are conflated in the *DSM-5* Section II representation of PD (Parker et al., 2004; Tyrer et al., 2011), they have different clinical implications. For instance, a better definition of the severity of personality pathology would help distinguish individuals with PDs from those with other forms of psychopathology or without psychopathology. Explicitly assessing severity would also help clinicians make more reliable determinations regarding the level of care that is appropriate for a given patient (e.g., monthly medication management versus intensive psychotherapy versus inpatient admission). Conversely, a more valid representation of style would make diagnosis more efficient, clarify the connections between personality and other forms of psychopathology, and provide a more reliable framework for determining the type of treatment (e.g., insight-oriented versus behavioral) that is likely to be most effective for a given patient.

A number of assessment methods have been developed to measure general personality pathology as

distinct from PD style (Blatt, Wein, Chevron, & Quinlan, 1979; Bornstein, 1998; Fonagy, Target, Steele, & Steele, 1998; Livesley, 2006; Verheul et al., 2008; Zimmermann et al., 2012). Based on a review of existing measures and theories of personality dysfunction, Bender, Morey, and Skodol (2011) developed the Levels of Personality Functioning Scale (LPFS) to define and assess the severity of personality pathology for *DSM-5* Section III. The LPFS is structured by two overall domains involving self and other dysfunction. The self-domain is characterized by capacity for socially appropriate self-directed behavior and integrated identity, and the interpersonal domain by capacity for intimacy and empathy. In the *DSM-5*, these Criterion A features serve two functions: (a) They describe what is common to all PDs (i.e., they provide a general definition of personality pathology) and (b) symptomatic features of individual PDs are articulated in terms of deficits in one of the LPFS domains (i.e., disorder-specific impairment markers). Morey et al. (2011) describe the development of a self-report scale to index overall level of personality functioning in a manner consistent with the *DSM-5* conceptualization.

Emerging research suggests that clinicians can achieve acceptable levels of reliability in assessing LPFS domains (Few et al., 2013; Skodol et al., 2013; Zimmermann et al., 2014). Morey, Bender, and Skodol (2013) showed that clinician ratings of moderate or greater dysfunction on the LPFS were both sensitive and specific to the presence of *DSM-IV* PD. In this study, the LPFS was rated by practicing clinicians as being at least as useful as the 10 PD categories and was a more valid predictor of measures of personality pathology and dysfunction than *DSM-5* Section II PD categories. Morey and Skodol (2013) also showed that decision rules based on Criterion A features of each specific PD could be used to calibrate diagnostic rates between the Section II and Section III models at levels that are closer than was the case in the transition from *DSM-III* to *DSM-III-R*. Zimmermann et al. (2014) found that the LPFS variables significantly correlate with PD features as well. However, Few et al. (2013) found that, while the LPFS does predict PDs and other forms of dysfunction in their data, associations with PDs become nonsignificant when pathological traits are also entered as predictors. We revisit the issue

of overlap between *DSM-5* Section III A and B criteria below.

A significant advantage of the LPFS model is its links to several two-dimensional models of the interpersonal aspects of personality functioning in the clinical and empirical literature (Blatt & Lerner, 1983; Hopwood, Wright, Ansell, & Pincus, 2013). As such, the LPFS maps onto systems that are commonly used among clinicians to conceptualize personality dysfunction. However, continued empirical research is needed, particularly on fundamental issues such as the structure of personality dysfunction as represented by the LPFS and other measures. For instance, some authors (Bornstein, 1998; Morey et al., 2011) hypothesize that a single dimension can account for the important variance in personality dysfunction, suggesting that the differentiation in the LPFS between self and interpersonal dysfunction may not be entirely necessary. In addition, other studies that have examined multiscale measures of personality dysfunction have not been consistent with the LPFS structure. Specifically, some studies have indicated that there are three domains of dysfunction (e.g., of self, of relations with others, and of the capacity for prosocial functioning; Berghuis, Kamphuis, & Verheul, 2012) or add a new dimension involving basic functions (e.g., self-care, physical health) to the self and interpersonal domains (Clark & Ro, 2014; Ro & Clark, 2013). Overall, the extensive theorizing on how to conceptualize the severity of personality pathology will need to be complemented by empirical research on the assessment of personality dysfunction in order to facilitate the clinical assessment of *DSM-5* Section III Criterion A features.

Criterion B: Pathological Personality Specifiers

The intent of pathological personality specifiers is to capture individual differences in the stylistic manifestation of PD. Accordingly, these specifiers constitute Criterion B of a PD diagnosis in the *DSM-5* Section III PD model. There are 25 specifiers that, as described above, delineate five higher-order domains of clinically relevant personality variation (Negative Affectivity versus Emotional Stability, Detachment versus Extraversion, Antagonism versus Agreeableness, Disinhibition versus Conscientiousness, and Psychoticism versus Lucidity). These domains bear a strong resemblance to

the domains of Harkness' Personality Psychopathology-Five model (PSY-5; Harkness & McNulty, 1994), and also to maladaptive variants of the domains of the Five-Factor Model (FFM; Costa & Widiger, 2012). This set of specifiers (both the 25 individual specifiers or "traits," as well as the higher-order domains they delineate) can be assessed by the PID-5.

Research on the *DSM-5* personality trait model has been accumulating at a brisk pace and was reviewed in detail by Krueger and Markon (2014). Not surprisingly, the majority of this research has involved the PID-5. Early work demonstrated that the self-report PID-5 structure replicates across samples and countries (De Fruyt et al., 2013; Fossati, Krueger, Markon, Borroni, & Maffei, 2013; Wright, Thomas, et al., 2012) and, furthermore, that the trait structure generalizes to clinician ratings of patients (Morey, Krueger, & Skodol, 2013). Importantly, the *DSM-5* Section III traits can account for the majority of the reliable variance in the Section II PD constructs, whether assessed via self-report (Fossati et al., 2013; Hopwood, Thomas, Markon, Wright, & Krueger, 2012) or interview (Few et al., 2013). Indeed, Morey and Skodol (2013) provide evidence that diagnostic rules for *DSM-5* PDs result in greater correspondence between *DSM-IV-TR* and *DSM-5* than was observed between *DSM-III* and *DSM-III-R*. Although this is encouraging, and undoubtedly is required as prima facie evidence for those expressing a reluctance to drop the old system, using the Section II PDs as a validity criterion for any investigation has long been criticized (Wiggins & Pincus, 1989). That is, replication of the constructs of a broken system (*DSM-IV*) is arguably less important than moving toward a more valid, empirically based system.

Along these lines, comparisons of the Section III system to other evidence-based systems of personality and its pathology also support the model. For instance, conjoint analyses of the PID-5 and existing inventories of normal range and pathological personality traits align in theoretically expectable ways (De Fruyt et al., 2013; Gore & Widiger, 2013; Thomas et al., 2013). Moreover, the content validity of the PID-5 has received substantial support (Anderson et al., 2013; Ashton, Lee, de Vries, Hendrickse, & Born, 2012; Hopwood, Schade, Krueger, Wright, & Markon, 2013; Quilty, Ayeaerst, Chmielewski, Pollock, & Bagby, 2013;

Watson, Stasik, Ro, & Clark, 2013; Wright, Pincus, et al., 2012). In addition, concurrent validity for key clinical personality constructs not well conceptualized in *DSM-IV* also appears strong; pathological narcissism, including both more vulnerable and more grandiose aspects (Miller, Gentile, Wilson, & Campbell, 2013; Wright, Pincus, et al., 2013), and psychopathy (Fossati et al., 2013; Strickland, Drislane, Lucy, Krueger, & Patrick, 2013) are reasonably well captured by the *DSM-5* traits. Thus, the *DSM-5* trait model appears to be on solid conceptual and empirical footing. Moreover, there is emerging evidence that the model also has clinical utility. For example, Morey, Skodol, and Oldham (2013) report results of a survey of clinicians indicating that the *DSM-5* trait model was seen as more clinically useful than *DSM-IV-TR* PDs (by psychiatrists as well as by psychologists).

Nevertheless, although the literature suggests the *DSM-5* Section III traits are reasonably comprehensive, there is room for principled expansion based on the emerging corpus of findings. For example, there may be room to expand the model to have better representation of more diverse forms of maladaptive affiliation (Wright, Pincus, et al., 2012) and more detailed coverage of multiple aspects of compulsivity, for example, as described by the obsessive-compulsive PD criteria of *DSM-IV* (Few et al., 2013; Hopwood et al., 2012). Continued research directed at refining and expanding the current group of traits will be valuable because such research provides a principled and empirical basis for continued development of the *DSM*.

Integrating A and B Criteria in the Section III Model

A central issue with respect to refinement of the *DSM-5* Section III model involves the balance between coverage and complexity within Criterion A features, within Criterion B features, and in the integration of these features. A specific concern with respect to the integration of A and B Criteria is the degree to which there is redundancy between psychometric representations of severity (i.e., dysfunction) and style (i.e., traits). Two empirical approaches have been taken to examine this issue. In the first approach, trait and dysfunction indicators are subjected to conjoint factor analyses to test whether distinct functioning and trait factors emerge. Berghuis et al. (2012) factor-analyzed normal

traits as measured by the Revised NEO Personality Inventory with two multiscale measures of personality dysfunction. These authors identified seven factors, three of which corresponded mostly to dysfunction (self/identity, prosocial, and relational) and four of which corresponded mostly to traits (inactivity, obliging, conscientiousness, and openness). Based on these findings, Berghuis et al. (2012) concluded that traits and dysfunction are distinguishable. However, Ro and Clark (2013; Clark & Ro, 2014) have concluded based on similar analyses that pathological traits and dysfunction overlap substantially in the form of five factors (internalizing/self-pathology, externalizing/interpersonal dysfunction, disinhibition, basic functioning, and goal engagement).

A second approach involves examining the incremental validity of trait and dysfunction indicators in terms of their associations with external variables. Such studies generally find that these domains provide incremental information, but that the increment is weak (Hopwood et al., 2011, 2012; Morey & Skodol, 2013). In fact, in the only study so far to use the *DSM-5* framework to predict clinically relevant criterion variables in patients, Criterion A features were unable to provide incremental information over Criterion B traits (Few et al., 2013).

A potential confounding issue in this research involves the use of normal as opposed to pathological traits. For instance, a possible resolution to the discrepancy between the factor-analytic findings described above may lie in the fact that Berghuis et al. (2012) focused on normal range traits, whereas Ro and Clark (2013) focused on pathological traits. While pathological traits are likely to be relatively stronger indicators of clinically relevant behavior (e.g., psychopathology and dysfunction), normal traits are likely to achieve relatively stronger discriminant validity with respect to dysfunction (Hopwood, 2011). Similarly, greater incremental validity is likely to be achieved between personality traits and dysfunction when traits are normal range than when they are pathological. At the same time, to the degree that there is redundancy between pathological traits and personality dysfunction, perhaps PD diagnosis can be restricted to a single domain of pathological features (i.e., the distinction in the *DSM-5* Section III PD model between functioning and traits may be unnecessary).

One obstacle to answering these kinds of important questions stems from limitations in the methods currently available for research on *DSM-5* Section III constructs. Thus, an important direction for further research is to develop assessment approaches that encompass the entire model, purposefully combining personality traits and dysfunction. Up to this point, such measures have been created independently, and thus it is likely that insufficient attention has been paid to the overlap of these domains in operationalizations of severity (Criterion A) and style (Criterion B). A standardized interview-based method for the conjunctive assessment of traits and dysfunction, corresponding directly with the *DSM-5* Section III PD model, would be especially useful.

CURRENT AND FUTURE DIRECTIONS

A "Third Stream": The *ICD-11* PD Proposal

In many ways, the *DSM-5* Section III model can be seen as a sort of middle ground between the PD model in *DSM-5* Section II (aka *DSM-IV* and also similar to *ICD-10*) and the PD model being proposed for *ICD-11* (Tyrer et al., 2011). Perhaps the most radical aspect of the *ICD-11* proposal is the complete elimination of PD categories. In contrast, PD categories are retained in *DSM-5* Section III. Even if they are somewhat superfluous relative to the more elemental assessments of traits and dysfunction, the PD categories of *DSM-5* Section III do provide transitional objects as the field moves from the broken *DSM-IV* model toward a more empirical approach.

Tyrer et al. (2011) emphasize that, rather than determining the presence of various PD syndromes, the focus of the *ICD-11* model is on establishing the severity of PD. Essentially, there is one PD diagnosis in the *ICD-11* proposal, and that PD can have different flavors depending on the individual's trait profile. The assessment of severity is demarcated into five ordinal levels: no PD (no personality-related disturbance), personality difficulty (some personality problems in certain situations), PD (the cut point for diagnosis; definite personality problems across situations), complex PD (definite personality problems across domains of personality and situations), and severe PD (complex personality problems that lead to significant risk for self or others). Tyrer et al. (2011) note the similarity

between this approach and general medical assessments of dimensional variables such as blood pressure or obesity as a virtue of this system. These authors also note that the *ICD-11* is intentionally less complex than the *DSM-5* Section III, in that it is unidimensional and focuses particularly on social aspects of personality pathology, which are thought to be relatively less abstract than, for example, self-pathology and thus more straightforward to assess.

Another departure from *ICD-10/DSM-5* Section II is that the assessment of individual differences in stylistic expression (i.e., different traits or disorders) is emphasized less. In fact, Tyrer et al. (2011) proposed that the articulation of trait features beyond a general diagnosis of PD severity would be optional in *ICD-11*. As with the severity assessment, the trait model is also less detailed than in *DSM-5* Section III, in that it includes five higher-order traits but no lower-order facets. The trait domains are mostly similar to, but also slightly different from, those of the *DSM-5*. Four traits—antagonism, disinhibition, detachment, and negative affectivity—appear to be quite similar across the *DSM-5* and *ICD-11* models. However, the *ICD-11* eschews the assessment of psychotic content as an element of personality pathology (although Tyrer et al., 2011, acknowledge that traits involving psychoticism are under consideration), but adds a fifth trait involving emotional instability, which can be conceptualized as a mix of impulsivity and negative affectivity, making this domain particularly relevant to constructs such as borderline PD.

In sum, both the *ICD-11* and *DSM-5* Section III models are key signposts along the road to more empirical approaches to PD in official nosologies. In this regard, their similarities reflect fundamental aspects of the way PD nosology is evolving. Specifically, there is significant momentum in both systems to (a) demarcate the severity of personality functioning from the stylistic manner in which the pathology is expressed and (b) use empirically substantiated individual difference models rather than politically based committee deliberations to articulate the features of personality pathology. In contrast, the differences between the *ICD-11* and *DSM-5* Section III models point to the major challenges for the field moving forward. For instance, a major theme will continue to be the balance between coverage and complexity. Whereas the

DSM-5 Section III model is relatively more detailed and thus risks being inefficient, the *ICD-11* model is relatively more efficient and risks missing detailed features of PD. These systems will thus provide a testing ground for optimizing the assessment of clinically important personality features.

Recognizing the Broad Relevance of Personality Constructs to Effective Clinical Practice: Can Official Nosologies Help?

Ultimately, it would be good for official nosologies to provide useful and empirically based models of clinically relevant personality variation. The limited clinical utility of the categorical *DSM-IV/DSM-5* Section II PD model is well known. In addition, emerging research suggests that practicing clinicians rate the *DSM-5* Section III traits as more easily applied to patients, more useful for communicating with patients, and more useful for comprehensively describing global personality and personality problems, as well as for formulating an effective intervention, compared with the *DSM-5* Section II (aka *DSM-IV*) criteria (Morey, Skodol, et al., 2013).

These findings, underscoring the limited utility of *DSM-IV*, provide a key impetus for developing a better approach. For example, by treating personality only as a finite set of categorical PDs, *DSM-IV* provides no direct means of conceptualizing the relevance of continuous personality variation to key clinical phenomena such as psychosocial functioning, treatment utilization, prognosis, and the future expression of disorders. Space limitations preclude a full review of the rich literature documenting these important linkages, but we highlight here a number of summaries and meta-analyses that have been published in recent years, supporting the broad relevance of personality for clinical practice. For example, due to its strong link to common mental disorders, particular attention has been paid to neuroticism/negative affect (Lahey, 2009; Ormel et al., 2013), and research has shown that neuroticism is predictive of the future development (i.e., first episode) of various mental disorders, treatment utilization, and treatment outcome. Moreover, broad personality domains in many cases demonstrate even *stronger* relationships to clinical syndromes than they do to PDs (Kotov et al., 2010). In part this is because the *DSM-IV* PD criteria are heterogeneous in their content, such that

associations with other variables are attenuated, but, in addition, the relationship of personality with clinical syndromes is also strikingly strong (Kotov et al., 2010). As we describe below, a large and growing body of research supports the contention that same structure serves to organize personality and psychopathology. Also worth noting is that personality is not only directly related to diverse mental disorders, but it also has been shown to modify or moderate their expression and course. For instance, interpersonal traits influence the length and severity of depression (Cain et al., 2012) and modify treatment response in social phobia (Cain, Pincus, & Grosse Holtforth, 2010).

Moreover, all of the major personality trait dimensions predict a host of functioning and life outcome variables (e.g., well-being, relationship qualities, and occupational functioning) that are routinely a consideration in treatment (Ozer & Benet-Martinez, 2006). Importantly, multiple major trait dimensions are predictive of a variety of health, morbidity, and physical diseases (Deary, Weiss, & Batty, 2010). The list of significant associations includes major public health concerns such as cardio-metabolic outcomes (e.g., obesity, coronary heart disease, hypertension; Phillips et al., 2010). Some research also suggests that personality may affect the course of diseases for which a causal link has not been established (e.g., cancer, HIV; Ironson, O'Leirigh, Weiss, Schneiderman, & Costa, 2008). Ultimately, multiple personality domains have been empirically linked with mortality (Roberts, Kuncel, Shiner, Caspi, & Goldberg, 2007). The personality and health literature presents a strong argument for the importance of personality and for its routine assessment in not only psychiatric, but also in primary care settings. Additionally, personality provides an important bridge, if not the key, to linking psychiatry to health sciences and medicine writ large.

It is worth considering all of this research at this juncture because, as reviewed above, the maladaptive trait aspect of the *DSM-5* Section III PD model converges directly with the structure and content of normative personality traits (Gore & Widiger, 2013; Wright & Simms, 2014). Accordingly, this model can provide a framework for assessing, diagnosing, summarizing, and noting (e.g., in a chart) a patient's personality traits that have important significance for prognosis and treatment

planning in routine psychiatric practice. Moreover, given the links between personality and physical health, it would allow for the communication of important clinical information in multidisciplinary coordinated care, thereby directly increasing the relevance of the psychiatric aspects of an integrated medical record. This would also help in conveying a more holistic, person-centered understanding of the patient to anyone who reviews the patient's chart.

Recognizing the Broad Relevance of Personality Constructs to Psychopathology Research

Continuity between normative personality and pathological personality (e.g., as instantiated in *DSM-5*) links the former to the latter not only in terms of the dimensions they comprise, but also in terms of the implied scope of relevant theory and research. Dimensions of personality represent broad, basic individual difference variables that have fundamental relevance across numerous domains of psychology, including psychopathology research. In this regard, the *DSM-5* trait model links psychopathology research to the basic science of differential psychology and provides scaffolding for the representation and conceptualization of broad forms of psychopathology in general.

It is no accident that similar dimensions have repeatedly been observed across different domains, starting from different assumptions and methods. As noted earlier, different measures of pathological personality, including the *DSM-5* model as well as others, generally converge with one another and with normative models in identifying five major dimensions of individual variation (De Fruyt et al., 2013; Gore & Widiger, 2013; Thomas et al., 2013; Wright & Simms, 2014). It is striking, moreover, that measures of psychopathology, often developed independently of one another and with no intent to represent personality variables, manifest broad dimensions strongly resembling those observed in the personality literature. For example, dimensions representing negative affect, disinhibition, and detachment or pathological introversion are readily observable in measures of normal as well as abnormal personality (Markon, Krueger, & Watson, 2005), psychopathology symptoms (Markon, 2010), and *DSM* diagnoses (Kotov et al., 2011). Dimensions identified in personality models such as the *DSM-5* trait model

and the normative FFM, moreover, both strongly resemble consensus domains proposed by NIMH to frame their Research Domain Criteria or RDoC initiative (Trull & Widiger, 2013). The processes underlying neuroticism connect with RDoC negative valence systems; the RDoC effortful control systems are similar to those proposed to undergird traits such as disinhibition, conscientiousness, or impulsivity; and the RDoC positive valence and social processes domains map onto those discussed in the literature on extraversion, especially when subordinate traits such as surgency and sociability are considered.

Although the RDoC constructs as articulated in the matrix on the NIMH's website (http://www.nimh.nih.gov/research-priorities/rdoc/nimh-research-domain-criteria-rdoc.shtml#toc_matrix) are somewhat distal from clinical manifestations of psychopathology per se, being grounded in areas such as cognitive neuroscience (e.g., working memory) or learning theory (e.g., frustrative nonreward), we would contend that the success of RDoC will hinge on the ability to ultimately connect these constructs with clinical symptomatology. Broad individual difference dimensions such as those framing the *DSM-5* trait model provide exactly this kind of bridge because they connect specific areas of clinical symptomatology (e.g., psychoticism) with fundamental psychological processes delineated in the RDoC matrix (e.g., visual and auditory perception).

This consilience underscores the role of these traits not only as fundamental personality variables, but also as fundamental psychopathology and individual difference variables that are evident in numerous contexts. As such, they represent orienting landmarks for researchers and theorists navigating across different domains of individual differences. Structural research aimed at identifying major dimensions can be found within many domains of psychopathology (e.g., dimensions of negative, positive, and disorganized psychosis, or aggressive and delinquent forms of externalizing); personality psychology provides a broad integrative perspective across these domains. This breadth of perspective is critical in understanding situations where variables identified within domains may be better understood in terms of variables from other domains (e.g., as in the case of impulsivity, where different impulsivity factors can sometimes be understood as

reflecting negative versus positive emotionality; Sharma, Markon, & Clark, 2014).

CONCLUSIONS

The *DSM-5* Section III PD model contains a number of forward-thinking elements, including a conceptualization of the overall extent of personality psychopathology in the domains of self and interpersonal functioning that distinguish personality pathology from health and other classes of disorder, as well as an empirically based model of pathological personality traits with the potential to provide a structure for reorganizing psychopathology more generally. These aspects of the model have attracted interest in the research community, and although there are issues still to resolve (e.g., the overlap between functioning and traits), some key aspects of the model appear to work well (e.g., the *DSM-5* personality trait model appears to have good content coverage, reliability, and validity). At this point, the exact ways in which the *DSM* will evolve are not entirely clear. Nevertheless, what is clear is that the study of PDs is at the vanguard of meaningful evolution in conceptualizing psychopathology (Krueger, 2013). Continued efforts to better incorporate dimensional elements such as personality functioning and traits into the *DSM* should result in a manual with both enhanced clinical utility and a better degree of connection with the empirical literature.

REFERENCES

- Ahmed, A. O., Green, B. A., Goodrum, N. M., Doane, N. J., Birgenheir, D., & Buckley, P. F. (2013). Does a latent class underlie schizotypal personality disorder? Implications for schizophrenia. *Journal of Abnormal Psychology, 122*, 475–491. doi:10.1037/a0032713
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.). Washington, DC: Author.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.
- Anderson, J. L., Sellbom, M., Bagby, R. M., Quilty, L. C., Veltri, C. O., Markon, K. E., & Krueger, R. F. (2013). On the convergence between PSY-5 domains and PID-5 domains and facets: Implications for assessment of DSM-5 personality traits. *Assessment, 20*, 286–294. doi:10.1177/1073191112471141

- Ashton, M. C., Lee, K., de Vries, R. E., Hendrickse, J., & Born, M. P. (2012). The maladaptive personality traits of the Personality Inventory for DSM-5 (PID-5) in relation to the HEXACO personality factors and schizotypy/dissociation. *Journal of Personality Disorders, 26*, 641–659. doi:10.1521/pedi.2012.26.5.641
- Barlow, D., Sauer-Zavala, S., Carl, J. R., Bullis, J. R., & Ellard, K. K. (2013). The nature, diagnosis, and treatment of neuroticism: Back to the future. *Clinical Psychological Science*. Advance online publication. doi:10.1177/2167702613505532
- Bender, D. S., Morey, L. C., & Skodol, A. E. (2011). Toward a model for assessing level of personality functioning in DSM-5, part I: A review of theory and methods. *Journal of Personality Assessment, 93*, 332–346. doi:10.1080/00223891.2011.583808
- Berghuis, H., Kamphuis, J. H., & Verheul, R. (2012). Core features of personality disorder: Differentiating general personality dysfunctioning from personality traits. *Journal of Personality Disorders, 26*, 704–716. doi:10.1521/pedi.2012.26.5.704
- Blashfield, R. K., & Reynolds, S. M. (2012). An invisible college view of the DSM-5 personality disorder classification. *Journal of Personality Disorders, 26*, 821–829. doi:10.1521/pedi.2012.26.6.821
- Blatt, S. J., & Lerner, H. (1983). The psychological assessment of object representation. *Journal of Personality Assessment, 47*, 7–28. doi:10.1207/s15327752jpa4701_2
- Blatt, S. J., Wein, S., Chevron, E. S., & Quinlan, D. M. (1979). Parental representations and depression in normal young adults. *Journal of Abnormal Psychology, 78*, 388–397. doi:10.1037/0021-843X.88.4.388
- Bornstein, R. F. (1998). Reconceptualizing personality disorder diagnosis in the DSM-V: The discriminant validity challenge. *Clinical Psychology: Science and Practice, 5*, 333–343. doi:10.1111/j.1468-2850.1998.tb00153.x
- Cain, N. M., Ansell, E. B., Wright, A. G. C., Hopwood, C. J., Thomas, K. M., Pinto, A. N., ... Grilo, C. M. (2012). Interpersonal pathoplasticity in the course of major depression. *Journal of Consulting and Clinical Psychology, 80*, 78–86. doi:10.1037/a0026433
- Cain, N. M., Pincus, A. L., & Grosse Holtforth, M. (2010). Interpersonal subtypes in social phobia: Diagnostic and treatment implications. *Journal of Personality Assessment, 92*, 514–527. doi:10.1080/00223891.2010.513704
- Clark, L. A., & Ro, E. (2014). Three pronged assessment and diagnosis of personality disorder and its consequences: Personality functioning, pathological traits, and psychosocial disability. *Personality Disorders: Theory, Research, and Treatment, 5*, 55–69. doi:10.1037/per0000063
- Conway, C., Hammen, C., & Brennan, P. (2012). A comparison of latent class, latent trait, and factor mixture models of DSM-IV borderline personality criteria in a community setting: Implications for DSM-5. *Journal of Personality Disorders, 26*, 793–803. doi:10.1521/pedi.2012.26.5.793
- Cooper, L. D., & Balsis, S. (2009). When less is more: How fewer diagnostic criteria can indicate greater severity. *Psychological Assessment, 21*, 285–293. doi:10.1037/a0016698
- Costa, P. T., Jr., & Widiger, T. A. (2012). *Personality disorders and the five-factor model of personality* (3rd ed.). Washington, DC: American Psychological Association. doi:10.1037/10140-000
- De Fruyt, F., De Clercq, B., De Bolle, M., Wille, B., Markon, K., & Krueger, R. F. (2013). General and maladaptive traits in a five-factor framework for DSM-5 in a university student sample. *Assessment, 20*, 295–307. doi:10.1177/1073191113475808
- Deary, I. J., Weiss, A., & Batty, G. D. (2010). Intelligence and personality as predictors of illness and death: How researchers in differential psychology and chronic disease epidemiology are collaborating to understand and address health inequalities. *Psychological Science in the Public Interest, 11*(2), 53–79. doi:10.1177/1529100610387081
- Eaton, N., Krueger, R. F., South, C., Simms, L. J., & Clark, L. A. (2011). Contrasting prototypes and dimensions in the classification of personality pathology: Evidence that dimensions, but not prototypes, are robust. *Psychological Medicine, 41*, 1151–1163. doi:10.1017/S0033291710001650
- Few, L. R., Miller, J. D., Rothbaum, A. O., Meller, S., Maples, J., Terry, D. P., ... MacKillop, J. (2013). Examination of the section III DSM-5 diagnostic system for personality disorders in an outpatient clinical sample. *Journal of Abnormal Psychology, 122*, 1057–1069. doi:10.1037/a0034878
- Fonagy, P., Target, M., Steele, H., & Steele, M. (1998). *Reflective-functioning manual, version 5.0, for application to adult attachment interviews*. London, UK: University College London.
- Fossati, A., Krueger, R. F., Markon, K. E., Borroni, S., & Maffei, C. (2013). Reliability and validity of the Personality Inventory for DSM-5 (PID-5): Predicting DSM-IV personality disorders and psychopathy in community-dwelling Italian adults. *Assessment, 20*, 689–708. doi:10.1177/1073191113504984

- Gore, W. L., & Widiger, T. A. (2013). The DSM-5 dimensional trait model and five-factor models of general personality. *Journal of Abnormal Psychology, 122*, 816–821. doi:10.1037/a0032822
- Gunderson, J. G. (1996). Introduction to section IV: Personality disorders. In T. A. Widiger, A. J. Frances, H. A. Pincus, et al. (Eds.), *DSM-IV sourcebook* (Vol. 2, pp. 647–664). Washington, DC: American Psychiatric Association.
- Gunderson, J. G. (1998). DSM-IV personality disorders: Final overview. In T. A. Widiger, A. J. Frances, H. A. Pincus, R. Ross, M. B. First, W. Davis, & M. Kline (Eds.), *DSM-IV sourcebook* (Vol. 4, pp. 1123–1140). Washington, DC: American Psychiatric Association.
- Hallquist, M. N., & Wright, A. G. C. (2014). Mixture modeling methods for the assessment of normal and abnormal personality, part I: Cross-sectional models. *Journal of Personality Assessment, 96*, 256–268. doi:10.1080/00223891.2013.845201
- Harkness, A. R., & McNulty, J. L. (1994). The Personality Psychopathology-Five (PSY-5): Issues from the pages of a diagnostic manual instead of a dictionary. In S. Strack & M. Lorr (Eds.), *Differentiating normal and abnormal personality* (pp. 291–315). New York, NY: Springer.
- Haslam, N., Holland, E., & Kuppens, P. (2012). Categories versus dimensions in personality and psychopathology: A quantitative review of taxometric research. *Psychological Medicine, 42*, 903–920. doi:10.1017/S0033291711001966
- Hopwood, C. J. (2011). Personality traits in the DSM-5. *Journal of Personality Assessment, 93*, 398–405. doi:10.1080/00223891.2011.577472
- Hopwood, C. J., Malone, J. C., Ansell, E. B., Sanislow, C. A., Grilo, C. M., McGlashan, T. H., ... Morey, L. C. (2011). Personality assessment in DSM-V: Empirical support for rating severity, style, and traits. *Journal of Personality Disorders, 25*, 305–320. doi:10.1521/pedi.2011.25.3.305
- Hopwood, C. J., Schade, N., Krueger, R. F., Wright, A. G. C., & Markon, K. E. (2013). Connecting DSM-5 personality traits and pathological beliefs: Toward a unifying model. *Journal of Psychopathology and Behavioral Assessment, 35*, 162–172. doi:10.1007/s10862-012-9332-3
- Hopwood, C. J., Thomas, K. M., Markon, K. E., Wright, A. G. C., & Krueger, R. F. (2012). DSM-5 traits and DSM-IV personality disorders. *Journal of Abnormal Psychology, 121*, 424–432. doi:10.1037/a0026656
- Hopwood, C. J., Wright, A. G. C., Ansell, E. B., & Pincus, A. L. (2013). The interpersonal core of personality pathology. *Journal of Personality Disorders, 27*, 270–295. doi:10.1521/pedi.2013.27.3.270
- Hopwood, C. J., Wright, A. G. C., Krueger, R. F., Shade, N., Markon, K. E., & Morey, L. C. (2013). DSM-5 pathological personality traits and the Personality Assessment Inventory. *Assessment, 20*, 269–285. doi:10.1177/1073191113486286
- Hyman, S. E. (2010). The diagnosis of mental disorders: The problem of reification. *Annual Review of Clinical Psychology, 6*, 155–179. doi:10.1146/annurev.clinpsy.3.022806.091532
- Ironson, G., O’Cleirigh, C., Weiss, A., Schneiderman, N., & Costa, P. T., Jr. (2008). Personality and HIV disease progression: The role of NEO-PI-R openness, extraversion, and profiles of engagement. *Psychosomatic Medicine, 70*, 245–253. doi:10.1097/PSY.0b013e31816422fc
- Kendler, K. S., & Myers, J. (2014). The boundaries of the internalizing and externalizing genetic spectra in men and women. *Psychological Medicine, 44*, 647–655. doi:10.1017/S0033291713000585
- Kotov, R., Gamez, W., Schmidt, F., & Watson, D. (2010). Linking “big” personality traits to anxiety, depressive, and substance use disorders: A meta-analysis. *Psychological Bulletin, 136*, 768–821. doi:10.1037/a0020327
- Kotov, R., Ruggero, C. J., Krueger, R. F., Watson, D., Yuan, Q., & Zimmerman, M. (2011). New dimensions in the quantitative classification of mental illness. *Archives of General Psychiatry, 68*, 1003–1011. doi:10.1001/archgenpsychiatry.2011.107
- Krueger, R. F. (2013). Personality disorders are the vanguard of the post-DSM-5 era. *Personality Disorders: Theory, Research, and Treatment, 4*, 355–362. doi:10.1037/per0000028
- Krueger, R. F., Derringer, J., Markon, K. E., Watson, D., & Skodol, A. E. (2012). Initial construction of a maladaptive personality trait model and inventory for DSM-5. *Psychological Medicine, 42*, 1879–1890. doi:10.1017/S0033291711002674
- Krueger, R. F., & Markon, K. E. (2014). The role of the DSM-5 personality trait model in moving toward a quantitative and empirically based approach to classifying personality and psychopathology. *Annual Review of Clinical Psychology, 10*, 477–501. doi:10.1146/annurev-clinpsy-032813-153732
- Krueger, R. F., Markon, K. E., Patrick, C. J., & Iacono, W. G. (2005). Externalizing psychopathology in adulthood: A dimensional-spectrum conceptualization and its implications for DSM-V. *Journal of Abnormal Psychology, 114*, 537–550. doi:10.1037/0021-843X.114.4.537

- Krueger, R. F., South, S., Johnson, W., & Iacono, W. (2008). The heritability of personality is not always 50%: Gene-environment interactions and correlations between personality and parenting. *Journal of Personality, 76*, 1485–1522. doi:10.1111/j.1467-6494.2008.00529.x
- Kupfer, D. J., Kuhl, E. A., & Regier, D. A. (2013). DSM-5—The future arrived. *Journal of the American Medical Association, 309*, 1691–1692. doi:10.1001/jama.2013.2298
- Lahey, B. B. (2009). Public health significance of neuroticism. *The American Psychologist, 64*, 241–256. doi:10.1037/a0015309
- Lilienfeld, S. O., & Waldman, I. D. (2004). Comorbidity and Chairman Mao. *World Psychiatry, 3*, 26–27.
- Livesley, W. J. (2006). *General assessment of personality disorder (GAPD)*. Vancouver, BC, Canada: Department of Psychiatry, University of British Columbia.
- Livesley, W. J., & Jang, K. L. (2000). Toward an empirically based classification of personality disorder. *Journal of Personality Disorders, 14*, 137–151. doi:10.1521/pedi.2000.14.2.137
- MacDonald, A. W., III, & Krueger, R. F. (2013). Mapping the country within: A special section on reconceptualizing the classification of mental disorders. *Journal of Abnormal Psychology, 122*, 891–893. doi:10.1037/a0033996
- Maj, M. (2014). Keeping an open attitude towards the RDoC project. *World Psychiatry, 13*, 1–3.
- Markon, K. E. (2010). Modeling psychopathology structure: A symptom-level analysis of Axis I and II disorders. *Psychological Medicine, 40*, 273–288. doi:10.1002/wps.20111
- Markon, K. E., & Krueger, R. F. (2005). Categorical and continuous models of liability to externalizing disorders: A direct comparison in NESARC. *Archives of General Psychiatry, 62*, 1352–1359. doi:10.1001/archpsyc.62.12.1352
- Markon, K. E., Krueger, R. F., & Watson, D. (2005). Delineating the structure of normal and abnormal personality: An integrative hierarchical approach. *Journal of Personality and Social Psychology, 88*, 139–157. doi:10.1001/archpsyc.62.12.1352
- Matusiewicz, A. K., Hopwood, C. J., Banducci, A. N., & Lejuez, C. W. (2010). The effectiveness of cognitive behavioral therapy for personality disorders. *Psychiatric Clinics of North America, 33*, 657–685. doi:10.1016/j.psc.2010.04.007
- Miller, J. D., Gentile, B., Wilson, L., & Campbell, W. K. (2013). Grandiose and vulnerable narcissism and the DSM-5 pathological personality trait model. *Journal of Personality Assessment, 95*, 284–290. doi:10.1080/00223891.2012.685907
- Morey, L. C., Bender, D. S., & Skodol, A. E. (2013). Validating the proposed diagnostic and statistical manual of mental disorders, 5th edition, severity indicator for personality disorder. *Journal of Nervous and Mental Disease, 201*, 729–735. doi:10.1097/NMD.0b013e3182a20ea8
- Morey, L. C., Berghuis, H., Bender, D. S., Verheul, R., Krueger, R. F., & Skodol, A. E. (2011). Toward a model for assessing level of personality functioning in DSM-5, part II: Empirical articulation of a core dimension of personality pathology. *Journal of Personality Assessment, 93*, 347–353. doi:10.1080/00223891.2011.577853
- Morey, L. C., Krueger, R. F., & Skodol, A. E. (2013). The hierarchical structure of clinician ratings of proposed DSM-5 pathological personality traits. *Journal of Abnormal Psychology, 122*, 836–841. doi:10.1037/a0034003
- Morey, L. C., & Skodol, A. E. (2013). Convergence between DSM-IV-TR and DSM-5 diagnostic models for personality disorder: Evaluation of strategies for establishing diagnostic thresholds. *Journal of Psychiatric Practice, 19*, 179–193. doi:10.1097/01.pra.0000430502.78833.06
- Morey, L. C., Skodol, A. E., & Oldham, J. M. (2013). Clinician judgments of clinical utility: A comparison of DSM-IV-TR personality disorders and the alternative model for DSM-5 personality disorders. *Journal of Abnormal Psychology, 123*, 398–405. doi:10.1037/a0036481
- Narrow, W. E., Clarke, D. E., Kuramoto, S. J., Kraemer, H. C., Kupfer, D. J., Greiner, L., & Regier, D. A. (2013). DSM-5 field trials in the United States and Canada, part III: Development and reliability testing of a cross-cutting symptom assessment for DSM-5. *American Journal of Psychiatry, 170*, 71–82. doi:10.1176/appi.ajp.2012.1207.1000
- Ormel, J., Jeronimus, B. F., Kotov, R., Riese, H., Bos, E. H., Hankin, B., & Oldehinkel, A. J. (2013). Neuroticism and common mental disorders: Meaning and utility of a complex relationship. *Clinical Psychology Review, 33*, 686–697. doi:10.1016/j.cpr.2013.04.003
- Ozer, D. J., & Benet-Martinez, V. (2006). Personality and the prediction of consequential outcomes. *Annual Review of Psychology, 57*, 401–421. doi:10.1146/annurev.psych.57.102904.190127
- Parker, G., Hadzi-Pavlovic, D., Both, L., Kumar, S., Wilhelm, L., & Olley, A. (2004). Measuring disordered personality functioning: To love and work reprised. *Acta Psychiatrica Scandinavica, 110*, 230–239. doi:10.1111/j.1600-0447.2004.00312.x
- Phillips, A. C., Batty, G. D., Weiss, A., Deary, I. J., Gale, C. R., Thomas, G. N., & Carroll, D. (2010). Neuroticism,

- cognitive ability, and the metabolic syndrome: The Vietnam Experience Study. *Journal of Psychosomatic Research*, *69*, 193–201. doi:10.1016/j.jpsychores.2010.01.016
- Pincus, A. L. (2005). A contemporary integrative interpersonal theory of personality disorders. In M. Lenzenweger & J. Clarkin (Eds.), *Major theories of personality disorder* (2nd ed., pp. 282–331). New York, NY: Guilford Press. doi:10.1080/00223891.2010.513706
- Quilty, L. C., Ayeart, L., Chmielewski, M., Pollock, B. G., & Bagby, R. M. (2013). The psychometric properties of the Personality Inventory for DSM-5 in an APA DSM-5 field trial sample. *Assessment*, *20*, 362–369. doi:10.1177/1073191113486183
- Ro, E., & Clark, L. A. (2013). Interrelations between psychosocial functioning and adaptive- and maladaptive-range personality traits. *Journal of Abnormal Psychology*, *122*, 822–835. doi:10.1037/a0033620
- Roberts, B. W., Kuncel, N. R., Shiner, R., Caspi, A., & Goldberg, L. R. (2007). The power of personality: The comparative validity of personality traits, socioeconomic status, and cognitive ability for predicting important life outcomes. *Perspectives on Psychological Science*, *2*, 313–345. doi:10.1111/j.1745-6916.2007.00047.x
- Sharma, L., Markon, K. E., & Clark, L. A. (2014). Toward a theory of distinct types of “impulsive” behaviors: A meta-analysis of self-report and behavioral measures. *Psychological Bulletin*, *140*, 374–408. doi:10.1037/a0034418
- Skodol, A. E., Morey, L. C., Bender, D. S., & Oldham, J. M. (2013). The ironic fate of the personality disorders in DSM-5. *Personality Disorders: Theory, Research, and Treatment*, *4*, 342–349. doi:10.1037/per0000029
- Spitzer, R. L., Endicott, J., & Gibbon, M. (1979). Crossing the border into borderline personality and borderline schizophrenia: The development of criteria. *Archives of General Psychiatry*, *36*, 17–24. doi:10.1001/archpsyc.1979.01780010023001
- Strickland, C. M., Drislane, L. E., Lucy, M., Krueger, R. F., & Patrick, C. J. (2013). Characterizing psychopathy using DSM-5 personality traits. *Assessment*, *20*, 327–338. doi:10.1177/1073191113486691
- Tang, T. Z., DeRubeis, R. J., Hollon, S. D., Amsterdam, J., Shelton, R., & Schalet, B. (2009). Personality change during depression treatment: A placebo-controlled trial. *Archives of General Psychiatry*, *66*, 1322–1330. doi:10.1001/archgenpsychiatry.2009.166
- Thomas, K. M., Yalch, M. M., Krueger, R. F., Wright, A. G. C., Markon, K. E., & Hopwood, C. J. (2013). The convergent structure of DSM-5 personality trait facets and the five-factor model (FFM) trait domains. *Assessment*, *20*, 308–311. doi:10.1177/1073191112457589
- Trull, T. J., & Ebner-Priemer, U. (2013). Ambulatory assessment. *Annual Review of Clinical Psychology*, *9*, 151–176. doi:10.1146/annurev-clinpsy-050212-185510
- Trull, T. J., & Widiger, T. A. (2013). Dimensional models of personality: The five factor model and the DSM-5. *Dialogues in Clinical Neuroscience*, *15*, 135–146.
- Tyrer, P. (2005). The problem of severity in the classification of personality disorders. *Journal of Personality Disorders*, *19*, 309–314. doi:10.1521/pedi.2005.19.3.309
- Tyrer, P., Crawford, M., Mulder, R., Blashfield, R., Farnam, A., Fossati, A., ... Reed, G. M. (2011). The rationale for the reclassification of personality disorder in the 11th revision of the International Classification of Diseases (ICD-11). *Personality and Mental Health*, *5*, 246–259. doi:10.1002/pmh.190
- Verheul, R. (2005). Clinical utility of dimensional models for personality pathology. *Journal of Personality Disorders*, *19*, 283–302. doi:10.1521/pedi.2005.19.3.283
- Verheul, R., Andrea, H., Berghout, C. C., Dolan, C., Busschbach, J. J., Van Der Kroft, P. J. A., & Fonagy, P. (2008). Severity Indices of Personality Problems (SIPP-118): Development, factor structure, reliability and validity. *Psychological Assessment*, *20*, 23–34. doi:10.1037/1040-3590.20.1.23
- Walters, G. D., & Ruscio, J. (2013). Trajectories of youthful antisocial behavior: Categories or continua? *Journal of Abnormal Child Psychology*, *41*, 653–666. doi:10.1007/s10802-012-9700-1
- Watson, D., Stasik, S. M., Ro, E., & Clark, L. A. (2013). Integrating normal and pathological personality: Relating the DSM-5 trait-dimensional model to general traits of personality. *Assessment*, *20*, 312–326. doi:10.1177/1073191113485810
- Widiger, T. A. (2001). Official classification systems. In W. J. Livesley (Ed.), *Handbook of personality disorders* (pp. 60–83). New York, NY: Guilford Press.
- Widiger, T. A., Cadoret, R., Hare, R., Robins, L., Rutherford, M., Zanarini, M. C., ... Frances, A. (1996). DSM-IV antisocial personality disorder field trial. *Journal of Abnormal Psychology*, *105*, 3–16. doi:10.1037/0021-843X.105.1.3
- Widiger, T. A., & Simonsen, E. (2005). Alternative dimensional models of personality disorder: Finding a common ground. *Journal of Personality Disorders*, *19*, 110–130. doi:10.1521/pedi.19.2.110.62628
- Wiggins, J. S., & Pincus, A. L. (1989). Conceptions of personality disorders and dimensions of personality.

- Psychological Assessment: A Journal of Consulting and Clinical Psychology*, 1, 305-316. doi:10.1037/1040-3590.1.4.305
- Wright, A. G. C., & Hallquist, M. N. (2014). Mixture modeling methods for the assessment of normal and abnormal personality, part II: Longitudinal models. *Journal of Personality Assessment*, 96, 269-282. doi:10.1080/00223891.2013.830262
- Wright, A. G. C., Hallquist, M. N., Morse, J. Q., Scott, L. N., Stepp, S. D., Nolf, K. A., & Pilkonis, P. A. (2013). Clarifying interpersonal heterogeneity in borderline personality disorder using latent mixture modeling. *Journal of Personality Disorders*, 27, 125-143. doi:10.1521/pedi.2013.27.2.125
- Wright, A. G. C., Pincus, A. L., Hopwood, C. J., Thomas, K. M., Markon, K. E., & Krueger, R. F. (2012). An interpersonal analysis of pathological personality traits in DSM-5. *Assessment*, 19, 263-275. doi:10.1177/1073191112446657
- Wright, A. G. C., Pincus, A. L., Thomas, K. M., Hopwood, C. J., Markon, K. E., & Krueger, R. F. (2013). Conceptions of narcissism and the DSM-5 pathological personality traits. *Assessment*, 20, 339-352. doi:10.1177/1073191113486692
- Wright, A. G. C., & Simms, L. J. (2014). On the structure of personality disorder traits: Conjoint analyses of the CAT-PD, PID-5, and NEO-PI-3 trait models. *Personality Disorders: Theory, Research, and Treatment*, 5, 43-54. doi:10.1037/per0000037
- Wright, A. G. C., Thomas, K. M., Hopwood, C. J., Markon, K. E., Pincus, A. L., & Krueger, R. F. (2012). The hierarchical structure of DSM-5 pathological personality traits. *Journal of Abnormal Psychology*, 121, 951-957. doi:10.1037/a0027669
- Zimmerman, M., Chelminski, I., Young, D., Dalrymple, K., & Martinez, J. (2012). Does the presence of one feature of borderline personality disorder have clinical significance? Implications for dimensional ratings of personality disorders. *Journal of Clinical Psychiatry*, 73, 8-12. doi:10.4088/JCP.10m06784
- Zimmermann, J., Benecke, C., Bender, D. S., Skodol, A. E., Schauenburg, H., Cierpka, M., & Leising, D. (2014). Assessing DSM-5 level of personality functioning from videotaped clinical interviews: A pilot study with untrained and clinically inexperienced students. *Journal of Personality Assessment*, 96, 397-409. doi:10.1080/00223891.2013.852563
- 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. doi:10.1080/00223891.2012.700664

Received November 26, 2013; revised March 31, 2014; accepted April 1, 2014.