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Personality Assessment in the Diagnostic Manuals: On Mindfulness, Multiple Methods, and Test Score Discontinuities

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Abstract

Recent controversies have illuminated the strengths and limitations of different frameworks for conceptualizing personality pathology (e.g., trait perspectives, categorical models), and stimulated debate regarding how best to diagnose personality disorders (PDs) in DSM-5, and in other diagnostic systems (i.e., the *International Classification of Diseases*, the *Psychodynamic Diagnostic Manual*). In this article I argue that regardless of how PDs are conceptualized and which diagnostic system is employed, multi-method assessment must play a central role in PD diagnosis. By complementing self-reports with evidence from other domains (e.g., performance-based tests), a broader range of psychological processes are engaged in the patient, and the impact of self-perception and self-presentation biases may be better understood. By providing the assessor with evidence drawn from multiple modalities, some of which provide converging patterns and some of which yield divergent results, the assessor is compelled to engage this evidence more deeply. The mindful processing that ensues can help minimize the deleterious impact of naturally occurring information processing bias and distortion on the part of the clinician (e.g., heuristics, attribution errors), bringing greater clarity to the synthesis and integration of assessment data.

To say that the past decade has been a time of great controversy in personality disorder research is like suggesting that gun control is an issue about which people have strong opinions. Both statements are technically true; neither begins to capture the depth or intensity of the debate. When the Personality and Personality Disorder Work Group's proposal for reconceptualizing personality disorders (PDs) in DSM-5 was made public (American Psychiatric Association [APA], 2010), the response was overwhelming. Although many clinicians applauded the proposed changes, regarding them as a long-overdue overhaul of an antiquated diagnostic system (Few et al., 2013; Skodol, 2012), other mental health professionals criticized the proposal, often in harsh and vehement tones (Batstra & Frances, 2011; Vanheule, 2012). After a lengthy and spirited debate, both within and outside the professional community, the APA Board of Trustees voted not to accept the Work Group's proposed revisions, choosing instead to leave the PD categories and symptom criteria unchanged from previous versions of the manual (see APA, 2012). As a result, the symptoms used to diagnose PDs in DSM-5 (APA, 2013) are the same as those in DSM-IV (APA, 1994), and they are based on research that is—at best—more than two decades old.

At least as far as the DSM is concerned, recent events have precipitated a crisis in the world of PDs.

But within every crisis there is opportunity, and the controversy surrounding how best to conceptualize and assess personality pathology has illuminated a number of conceptual, empirical, and clinical issues worthy of greater attention and more focused investigation. For example, researchers have made considerable progress delineating the impact of gender, culture, and age on the epidemiology of PDs, and on the experience and expression of personality pathology in different groups (Oltmanns & Powers, 2013; Gutierrez et al., 2012). Policymakers have discussed the ways in which changes in the health care system (e.g., implementation of the Patient Centered Medical Home model; McDaniel & deGruy, 2014) may affect PD diagnosis, assessment, and treatment; others have explored the impact of emerging research paradigms (e.g., the National Institute of Mental Health's *Research Diagnostic Criteria*; Insel, 2013) on how PDs will be examined empirically.

Given the myriad changes taking place in this area, and concomitant opportunities for refinement of the current system, continued attention to the impact of recent clinical and empirical advances on PD theory, research, and practice is clearly warranted. This article contributes to that effort by discussing the role of personality assessment in PD diagnosis, not only in DSM-5, but in other diagnostic systems as well (i.e., the *International Classification of Diseases* [ICD-10; World Health Organization, 2004], and *Psychodynamic Diagnostic Manual* [PDM; Alliance of Psychoanalytic Organizations, 2006]). I argue that regardless of how PDs are conceptualized and which diagnostic system is employed, multi-method assessment must play a central role in PD diagnosis. In clinical settings multi-method assessment enables the clinician to go beyond surface presentation and understand more completely the underlying dynamics of different PDs and PD-related traits as they are expressed in individual patients. In research settings multi-method assessment can help refine core trait dimensions, symptom criteria, and diagnostic categories, enabling researchers to distinguish ostensibly similar trait clusters and PD syndromes that reflect contrasting etiologies and different intrapersonal patterns.

In addition to improving the conceptualization and diagnosis of personality pathology, multi-method assessment can enhance the utility of data obtained in the clinical setting because it engages the psychological processes of both patient and assessor more fully than does mono-method assessment. As psychometricians have noted, mono-method assessment tends to artificially exaggerate inter-test consistency because use of common methods draws upon a narrow range of psychological processes (American Educational Research Association et al., 2014; Strauss & Smith, 2009). By complementing self-reports with evidence that emerges in other domains (e.g., performance-based tests), a broader range of psychological processes are engaged in the patient, and the impact of self-perception and self-presentation biases may be better understood. In addition, by providing the assessor with evidence drawn from multiple modalities, some of which provide converging patterns, and some of which may yield divergent—even contradictory—results, the assessor is compelled to engage this evidence more deeply (see Baldini, Parker, Nelson, & Siegel, 2014; Shapiro, Jazaieri, & Goldin, 2012). The mindful processing that ensues can help minimize the deleterious impact of naturally occurring information processing bias and

distortion on the part of the clinician (e.g., heuristics, attribution errors), bringing greater clarity to the synthesis and integration of assessment data.

Classifying Pathology (and Sometimes Adaptation): Three Diagnostic Systems

Although the DSM is considered by many to be the definitive diagnostic system in the world of mental health, beginning in 2015 Managed Care Organizations (MCOs) and the Centers for Medicare and Medicaid Services (CMS) in the United States will require clinicians to provide ICD-10—not DSM-5—codes for reimbursement. Moreover, although advances in biological and cognitive research have tended to dominate recent discussions of diagnosis and treatment, psychoanalytic concepts have undergone a quiet resurgence, not only in clinical psychology but in other subfields as well (e.g., cognitive, social, developmental, neuropsychological; see Protopopescu & Gerber, 2013; Wilson, 2009). Thus, in considering the role of personality assessment in the diagnostic manuals it is important to include not only the DSM-5 and ICD-10, but also the PDM. In the following sections I describe core elements of these manuals relevant to personality assessment and PD diagnosis.

The International Classification of Diseases

The oldest of the three major diagnostic systems, the ICD, grew out of a desire among members of the 19th century medical community to classify patterns of mortality so that trends in this area could be identified, and illness and disease managed more effectively. Initial efforts in this regard were formalized in the American Public Health Association's (1900) *Classification of Causes of Death*, which was eventually relabeled the ICD. The ICD was revised periodically during the next several decades, culminating in the publication of ICD-6 in 1949, which marked the first modern, empirically grounded iteration of this diagnostic system. The current version of the manual is ICD-10 (WHO, 2004), with ICD-11 slated for publication in 2017 (Tyrer et al., 2011).

As Table 1 shows, the ICD-10 includes eight PDs which—aside from labeling differences and variations in the specifics of certain symptom criteria—overlap substantially with the PD categories of DSM-5 (in contrast to DSM-5, Schizotypal PD and Narcissistic PD are not included in ICD-10). One current proposal for ICD-11 is to replace the eight discrete PD categories with five overarching trait domains that capture core dimensions of personality pathology: asocial, emotionally unstable, obsessional/anankastic, anxious/dependent, and dissocial (see Tyrer et al., 2011). In addition, ICD-11 may include a 5-point rating of overall degree of personality dysfunction derived from Tyrer and Johnson's (1996) framework, with scores ranging from 0 (“No Personality Disorder”) to 4 (“Severe Personality Disorder”) (see also Crawford, Koldobsky, Mulder, & Tyrer, 2011).

The Diagnostic and Statistical Manual of Mental Disorders

Conceived in part to enhance mental health service delivery for returning World War II veterans, the DSM-I (APA, 1952) was designed to provide a scientifically informed framework for diagnosing psychological disorders, and a universal language that could be used by clinicians of varying backgrounds to describe patients' symptoms and syndromes.

Because psychodynamic models of personality and psychopathology were dominant in the 1940s, DSM-I diagnostic criteria were strongly influenced by psychoanalytic concepts (see Bornstein, 2006a, for examples). As the DSM was revised, efforts were made to describe psychological disorders in more atheoretical terms. As a result, DSM-II (APA, 1968) was less psychodynamic than DSM-I, and by the time DSM-III (APA, 1980) was published overt reference to psychoanalytic concepts had been more-or-less completely excised from the manual.

Table 1 lists the 10 PD categories in DSM-5, which remain unchanged from those in DSM-IV (APA, 1994). Two features of the Personality and Personality Disorder Work Group's proposal not included in the PD diagnostic criteria in DSM-5 are outlined in Section III of the manual ("Emerging Measures and Models") to facilitate continued investigation. First, the Work Group proposed that diagnosticians assign 5-point impairment ratings for two domains related to the self (*identity* and *self-direction*), and two domains related to interpersonal functioning (*empathy* and *intimacy*); only patients who manifest clinically significant impairment in these domains would receive formal PD diagnoses. Second, the work group proposed that patients should be rated on a series of five trait dimensions (each of which is composed of a number of narrower facets): negative affect, detachment, antagonism, disinhibition, and psychoticism (see Krueger, Derringer, Markon, Watson, & Skodol, 2012, for a description of these dimensions and facets).

The Psychodynamic Diagnostic Manual

In part in reaction to the atheoretical emphasis of the DSM and its longstanding adherence to a medical/disease model, the PDM (APO, 2006) was developed to add a contrasting, person-centered perspective to the diagnosis of psychological dysfunction. In addition to considering symptom patterns (Axis S), the PDM enables clinicians to describe personality patterns and disorders (Axis P), and the patient's overall level of mental functioning (Axis M). Because Axis M ratings capture strength and adaptation as well as dysfunction and deficit, the PDM is unique among the major diagnostic systems; the DSM-5 and ICD-10 both focus more or less exclusively on the identification of pathology. Although the PDM is less widely used than the DSM-5 or ICD-10, it has received increasing attention from researchers in recent years (see Etzi, 2014; Gazzillo et al., in press), and has been employed in clinical settings as an adjunct to the more widely used diagnostic systems, especially in Europe (Gazzillo, Lingardi, & Del Corno, 2012). The PDM is currently being revised and updated, with PDM-2 scheduled for publication in 2015 (Lingardi, McWilliams, Bornstein, Gazzillo, & Gordon, in press).

PDM Axis P includes 14 PDs (see Table 1), which are conceptualized as prototypes rather than categories (i.e., the diagnostician evaluates the degree to which a given patient matches a particular PD prototype rather than assigning a dichotomous present/absent diagnosis). Unlike the DSM-5, the PDM does not include Schizotypal PD or Borderline PD: Schizotypy is considered a manifestation of severe schizoid pathology in the PDM (see APO, 2006, p. 33), and following the suggestions of Kernberg (1984) and McWilliams (1994), borderline pathology is conceptualized as a level of personality organization rather than as a separate disorder. Several additional PDs beyond those in DSM-5 and ICD-10 are included in the

PDM (i.e., Sadistic and Sadomasochistic, Masochistic/Self-Defeating, Dissociative, Depressive, Somatizing, and Anxious), and the manual includes subtypes for several PDs (e.g., arrogant/entitled versus depressed/depleted Narcissism, inhibited versus demonstrative/flamboyant Histrionicity).

Units of Analysis, and the Opportunities and Challenges of Each

The three major diagnostic systems not only differ in their underlying assumptions, goals, and structures, they also utilize different coding rubrics—contrasting “units of analysis”—to classify and quantify personality pathology. ICD-10 and DSM-5 both employ a categorical (present/absent) approach. This diagnostic strategy has a long history, and the virtue of simplicity, but as a number of writers have noted, problems with categorical diagnoses include arbitrary thresholds, heterogeneity within categories, and excessive comorbidity. For example, as Zimmerman, Chelminski, Young, Dalrymple, and Martinez (2013) pointed out, evidence does not support the hypothesis, implicit in the DSM/ICD threshold model, that a qualitative shift in impairment takes place when a particular number of PD symptom criteria are present. In addition, as Widiger (2011) and Bornstein et al. (2014) noted, given the number of possible symptom combinations that can qualify an individual for a particular PD diagnosis in the DSM, it is possible for two patients to be in the same diagnostic category but have very few symptoms in common. DSM-5 and ICD-10 PDs show high rates of comorbidity as well, with the majority of personality disordered patients receiving multiple PD diagnoses in many clinical settings.

In contrast to DSM-5 and ICD-10, the PDM uses a prototype strategy which acknowledges the variability of symptom patterns within PD categories, and the fuzziness of PD constructs and category labels. A key advantage of prototype diagnoses is that they align naturally with the way people think: We tend to classify entities (including other people) based on the degree to which that entity represents a good fit with core features of a particular category. Because prototypes are mental representations, constructed by the individual based on his or her experience with members of a category, a primary obstacle in prototype diagnosis is misclassification based on one or two ostensibly salient but misleading characteristics. For example, in the minds of most clinicians the prototypical Antisocial patient is a man, and the prototypical patient with Borderline PD is a woman. Not surprisingly, analogue studies show that when presented with a case vignette describing a patient with an array of PD features, clinicians are more likely to diagnose that patient as Antisocial if the patient is identified as male, and as Borderline if the patient is identified as female (Crosby & Sprock, 2004; Samuel & Widiger, 2009). Similar prototype-driven sex biases affect clinicians' diagnoses of Dependent, Histrionic, Narcissistic, and Paranoid PDs, the first two being regarded by clinicians as prototypically female, the second two as prototypically male (Bornstein & McLeod, in press).

Looking forward, ICD-11 and DSM-5.1 may utilize trait ratings in addition to or in lieu of categorical PD diagnoses; this approach has the advantage of capturing PD severity as well as the multidimensional nature of personality traits and PDs, and allows for more precise description of domains of dysfunction within individual patients (see Krueger et al., 2012; Pincus et al., 2014; Widiger, Lynam, Miller, & Oltmanns, 2012). A key challenge in

implementing a trait framework for PD diagnosis involves delineating what constitute the core traits that underlie personality pathology. Table 2 summarizes the most influential trait models of personality pathology in use today (including those in DSM-5 Section III, and those proposed for ICD-11). As this table shows, although there is some degree of consensus and overlap in core trait constructs across models, there is substantial disagreement as well. Other challenges in implementing trait models of personality pathology involve translating dimensional trait ratings into a “diagnosis” that is useful in clinical settings (Paris, 2008), and accounting for the situational variability in responding that is inherent in most contemporary models of personality and personality pathology (Huprich, Bornstein, & Schmitt, 2011).

Diagnosis, Assessment, and Multi-Method Assessment

As McWilliams (2011) and Meyer et al. (2001) noted, the terms *diagnosis* and *assessment* are sometimes used interchangeably, even in the professional literature, but they are actually quite different. Diagnosis involves documenting a patient's symptoms with the goal of classifying that patient into one or more categories whose labels represent shorthand descriptors of complex psychological syndromes (e.g., Social Phobia, Avoidant PD). Assessment involves administering a battery of psychological tests to disentangle the complex array of dispositional and situational factors that interact to determine a patient's subjective experiences, affects, motives, core beliefs, coping strategies, and behavior patterns (Bram & Peebles, 2014; Ganellen, 2007; Hopwood & Bornstein, 2014; Huprich, 2011). Assessment data by themselves cannot be used to render a diagnosis, but they provide important evidence regarding characteristics of the patient (e.g., attitudes, need states, defenses) that can support a tentative diagnosis, help refine diagnosis, and aid in differential diagnosis.¹

A broad array of psychological tests have been developed for use in clinical settings, but with respect to the assessment of personality and personality pathology many of the more widely used tests fall into one of two categories: 1) measures of self-attributed traits and characteristics (which have traditionally been referred to as self-report tests); and 2) measures of implicit (i.e., underlying, often unconscious) traits and characteristics—needs, motives, affects, attitudes, and beliefs that may not be fully accessible to conscious awareness. Measures that emphasize the assessment of implicit traits and characteristics have traditionally been labeled projective tests, but are now identified as performance-based tests (see Meyer & Kurtz, 2006). In some cases a given trait can be assessed using both test formats, as in implicit versus self-attributed need for achievement (McClelland, Koestner, & Weinberger, 1989; Spangler, 1992), and implicit versus self-attributed dependency (Bornstein, 2002; Cogswell, 2008). When this strategy is used, and a particular trait is assessed in the same people using both types of tests, scores on the implicit and self-

¹One might argue that PD screening questionnaires and diagnostic interviews are in fact assessment tools—and technically they may be—but there is an important distinction to be made between the structure of an instrument and the goals of that instrument. Structurally PD questionnaires and interviews do indeed resemble other psychological assessment tools (Rogers, 2003), and must meet acceptable criteria for retest reliability, and convergent and discriminant validity (Widiger & Samuel, 2005). Despite these similarities, these two types of instruments differ with respect to their central purpose: PD questionnaires and interviews are designed to quantify symptoms and syndromes, whereas assessment tools like the RIM and MMPI-2 are designed to tap implicit and self-attributed needs, motives, attitudes, beliefs, and affect states.

attributed measures tend to be modestly correlated, confirming that these two methods do in fact assess different expressions of a given trait (see also Zeigler-Hill, Fulton, & McLemore, [2012] for evidence documenting the modest correlation between scores on measures of implicit and self-attributed self-esteem).

A skeptic might wonder how combining scores from self-report and performance based measures of traits and other dispositional variables can enhance understanding of personality pathology and facilitate PD diagnosis. One early example of this strategy was Bornstein's (1998) study which found that individuals with Dependent PD traits and symptoms scored high on both self-report and performance-based measures of interpersonal dependency whereas individuals with Histrionic PD traits and symptoms obtained high performance-based—but low self-report—dependency scores. Other investigations have documented contrasting patterns of implicit and self-attributed dependency scores in Borderline patients (Bornstein, Becker-Maturo, Winarick, & Reichman, 2010), and contrasting patterns of implicit and self-attributed self-esteem in grandiose and vulnerable narcissism (Horvath & Morf, 2009). Lobbestael, Cima, and Arntz (2013) found that self-report and performance-based hostility predicted different forms of aggression in male patients with Antisocial PD. Along somewhat different lines, clinicians and researchers have long known that patients with borderline pathology often perform quite well on measures with a high degree of structure (e.g., intelligence tests) while performing poorly on less structured instruments like the Rorschach (Carr & Goldstein, 1981). Note that although the aforementioned investigations used a variety of measures, and studied different types of patients, they all used test score discontinuities—test score divergences—to elucidate underlying personality dynamics not amenable to assessment solely via self-report.

The Mind of the Patient: Toward a Phenomenology of Psychological Tests

To maximize the utility of multi-method assessment in PD diagnosis, clinicians and clinical researchers must understand as fully as possible the phenomenology of self-report and performance-based tests—the private, subjective experiences of test-takers as they respond to different types of test items. Consider the following two items from a widely used questionnaire measure of interpersonal dependency: “I would rather be a follower than a leader”, and “I have a lot of trouble making decisions by myself”. Both statements are rated by the respondent on Likert-type scales anchored by the terms *Not at all true of me* and *Very true of me*. At least three psychological processes occur as people respond to these test items. First, respondents engage in *introspection*, turning their attention inward to determine if the statement captures some aspect of their feelings, thoughts, motives, or behaviors. Second, a *retrospective memory search* occurs, as respondents attempt to retrieve instances wherein they experienced or exhibited the response(s) described in the test item. Finally, respondents may engage in *deliberate self-presentation*, deciding whether, given the context and setting in which they are being evaluated, it is better to answer honestly, or modify their response to depict themselves in a particular way. Typically these efforts are aimed at “faking good” (i.e., attempting to portray oneself as healthier than is actually the case) or “faking bad” (attempting to portray oneself as unhealthy and exaggerate pathology), depending upon the respondent's self-presentation goals, and the setting in which testing takes place (Ganellen, 2008). As Meyer et al. (2001) and Bornstein (2011) noted, responding

to self-report test items is typically associated with a high degree of self-monitoring, as the respondent generates initial responses based on the aforementioned introspective and retrospective processes, then evaluates how these responses might be interpreted by the examiner, and adjusts accordingly.

Contrast this set of psychological processes with those that occur as people complete a performance-based measure like the Rorschach Inkblot Method (RIM). Here the respondent is asked to describe a series of ambiguous images; the fundamental challenge is to create meaning in a stimulus that can be interpreted in multiple ways. To do this respondents must direct their attention outward (rather than inward), and focus on the stimulus (not the self); they then attribute meaning to the stimulus based on properties of the inkblot and the associations primed by these stimulus properties (see Bornstein, 2007, for evidence documenting the impact of schema priming on Rorschach responding). Like the attributions that occur in everyday social contexts, these test-based *stimulus attributions* are to some degree driven by conscious, controlled processes, and are also shaped by responses not fully accessible to conscious awareness (see Bargh & Morsella, 2008; Wilson, 2009). Once a series of potential percepts is formed respondents typically sort through these possible responses, selecting some and rejecting others before providing their description. Although the idea that performance-based tests are akin to a “psychological X-ray” that will uncover hidden truths despite the patient's best efforts to conceal them has not held up to empirical scrutiny (Meyer et al., 2011; Weiner, 2004), it is nonetheless true that performance-based test responses are more spontaneous—less tightly controlled—than are responses to self-report tests. Research confirms that it is more difficult for respondents to dissimulate on performance-based tests than self-report tests (Ganellen, 2008; Hartmann & Hartmann, 2014; Sartori, 2010).²

The Mind of the Assessor: Balancing Accuracy and Efficiency

The human mental apparatus is not structured to maximize accuracy in judgment and decision-making, but to balance accuracy and efficiency. Many of the psychological processes involved in perceiving and interpreting information (including psychological test data) occur outside conscious awareness, so we typically have limited insight into the ways in which heuristics and biases taint our thinking. Nonetheless, we humans are, as a group, willing to give up some degree of accuracy in order to minimize the expenditure of mental energy. As Fiske and Taylor (1991) pointed out, people are “cognitive misers” who seek to preserve cognitive resources in case these resources are needed to perform other unanticipated tasks. Our inclination to process information as efficiently as possible may be adaptive in an evolutionary sense, but it also leads to distortions in perception (Pohl, 2005), memory (Radomsky et al., 2014), judgment (Garb, 2005), and decision-making (Evans, 2007).

²This is not meant to imply that self-reports are unaffected by processes outside awareness. On the contrary, research has demonstrated that self-reports are influenced by implicit affective responses, unintended priming effects, and other subtle factors that are, for the most part, beyond the respondent's conscious control (see Huprich et al., 2011). With this in mind, however, it is clear that self-reports are more strongly influenced than performance-based tests by conscious, controlled processes, and that performance-based test responses are more strongly influenced by processes that are less accessible to awareness and deliberate, conscious control.

Reviews of limitations in the accuracy of human information processing are provided by Fernandez (2013), Kahneman (2003), and Wilson (2009). In the present context, four limitations are particularly salient.

Stereotypes—Numerous studies have shown that characteristics of patients that are modestly related—or unrelated—to PD diagnosis (e.g., gender, age) nonetheless alter clinicians' decisions in predictable ways. It is comparatively difficult to conceptualize a female patient as Narcissistic, or a male patient as Histrionic, since both conceptualizations require that we suppress our initial predisposition to associate narcissism with masculinity and histrionicity with femininity. Similarly, it takes considerable mental effort to conceptualize an 85 year-old man as having Borderline PD—even if he manifests every symptom of the disorder. As social psychologists have shown, stereotypes persist because many involve a kernel of truth (no matter how small). Nonetheless, with respect to individual patients, and specific clinical decisions, stereotypes bias our thinking even as they expedite decision-making.

Heuristics—Processing shortcuts that allow us to make decisions efficiently affect PD diagnoses as well. For example, if one works in a setting with a high percentage of Antisocial patients one would be more likely to diagnose a patient with ambiguous PD symptoms as antisocial (the *base rate heuristic*). Similarly, if one had a very memorable experience with a Borderline patient one may misdiagnose another patient as having borderline PD if the second patient shares some noticeable features with the first patient—even if those features are unrelated to borderline pathology. Studies have shown that when two people have some superficial characteristics in common (e.g., hair color, body type) we tend to overestimate similarity even in areas that are clearly unrelated to those characteristics (e.g., personality, political attitudes; Bargh & Williams, 2006).

Misattributions—We overestimate the degree to which our own behavior is driven by environmental circumstances, and underestimate the impact of situation and context on the behavior of other people, including patients. This processing bias—the classic “actor-observer effect”—can lead to a variety of diagnostic errors. For example, a patient may be incorrectly identified as having Paranoid PD if the clinician fails to recognize that this patient's suspicious stance is an adaptation to a genuinely threatening environment (Paris, 2008). Similarly, a patient may be misdiagnosed as having Dependent PD if the clinician does not take into account that the patient was raised in a highly sociocentric society (Bornstein, 2012). Both attributional distortions are correctable, but both require that the clinician devote additional cognitive resources to adjust an initial reflexive response.

Confirmatory bias—In our quest for mental efficiency (and our desire to find evidence supporting our *a priori* beliefs), we seek out and process deeply that information which is consistent with an initial hunch, and ignore or process more shallowly information that contradicts our initial inclination. Confirmatory bias occurs in scientists and clinicians as well as in laypersons (formal training has only a modest impact on this process), and in the clinical setting confirmatory bias can lead to misdiagnoses, and missed diagnoses, when it causes the diagnostician to engage in “self-fulfilling interviewing” and attend most closely

to confirmatory evidence, discounting and disregarding evidence that contradicts his or her initial inclination (Garb, 2005; Rogers, 2003).

Personality Assessment in the Diagnostic Manuals: Optimizing Clinical Judgment for Categories, Prototypes, and Traits

Integrating personality assessment results with symptom focused information can enhance diagnosis in several ways. First, it provides a more complete picture of the patient by complementing diagnostic data (typically obtained via questionnaire or structured interview) with data capturing other domains of functioning (e.g., affect patterns, defenses, mental representations of significant figures) obtained using multiple methods (e.g., self-reports and performance-based tests). In addition, it helps illuminate distortions in patients' self-perception and self-presentation by allowing the clinician to examine test score discontinuities, and explore instances where patient self-descriptions diverge from evidence from other modalities (see Bornstein, 2011, for a discussion of psychological processes engaged by tests that employ different methods and metrics).

Beyond enhancing the quality of information obtained from the patient, multi-method assessment can help counter the deleterious impact of the clinician's own information-processing limitations by compelling the clinician to engage clinical data more actively as he or she integrates information from diverse sources, and attempts to reconcile ostensibly discordant results. Studies have shown that when people are compelled to grapple with information that suggests different possible interpretations they engage this information more fully, devoting additional cognitive resources to identifying and interpreting convergences and divergences among different data sources. The increased mindfulness that results from clinicians' efforts to reconcile divergent multi-method assessment patterns occurs in psychological settings (Baer, 2007; Teasdale, Segal, & Williams, 2003), and has been documented in physicians as well (Sargeant, Mann, Sinclair, Van der Vleuten, & Metsemakers, 2008; Sibinga & Wu, 2010).

In short, the test score discontinuities that commonly emerge when multi-method assessment is used not only provide a unique glimpse into the mind of the patient, but also help shift the assessor toward more critical, thoughtful processing of psychological test data. It is noteworthy (or at least somewhat ironic) that multi-method assessment helps shift the patient from controlled self-scrutiny toward more spontaneous responding even as it challenges the assessor to engage divergent, discordant test results more critically, and more mindfully. These dual salutary features of multi-method assessment hold true regardless of the diagnostic system being employed (DSM, ICD, or PDM), and regardless of the rubric used to code and classify personality pathology (category, prototype, or trait). Multi-method assessment can enhance diagnostic accuracy across a broad array of PD syndromes and trait dimensions, the only requirement being that psychometrically sound measures of salient syndromes and trait constructs are available that employ contrasting methods and engage contrasting psychological processes in the patient.

To maximize the value of multi-method assessment in current and future versions of the diagnostic manuals, several issues must be addressed. For example, although writers have

discussed the psychological processes that are engaged when patients complete different types of psychological tests (Bornstein, 2009, 2011; Hopwood & Bornstein, 2014) comparatively little attention has been paid to delineating the processes that occur in the mind of the assessor as test data are synthesized and integrated. Embretson (1998) and others (Slaney & Maraun, 2008) have outlined formal strategies for obtaining introspective descriptions from people (e.g., students, clinicians, scientists) as they engage in problem-solving, decision-making, judgment, and prediction tasks; these strategies may help illuminate the moment-by-moment experience of the assessor as he or she interprets test results. Given inherent limitations in our ability to introspect and report accurately on ongoing mental activities (Bargh & Morsella, 2008; Fernandez, 2013), it may be useful to complement these types of “on line” self-report data with experimental methods wherein salient processes are deliberately activated (or primed), and the impact of these manipulations assessed (Bornstein, 2006b; Josephs & Bornstein, 2011). Although this *process priming* framework was initially proposed as a means of illuminating the patient's psychological dynamics, they can be applied to the clinician as well. For example, by priming gender stereotypes and then assessing the impact of this manipulation on clinicians' tendency to render PD diagnoses based in part on the sex of the patient, the mechanisms through which these sorts of biases operate may become clearer. By using mindset priming techniques (Sassenberg & Moskowitz, 2005) to make past experiences with particular types of patients momentarily salient in the mind of the assessor, the impact of the availability heuristic on diagnostic decisions may be better understood.

In this context, it will be useful to explore more systematically the range of cognitive distortions that help shape clinical decisions to understand more completely the impact of these distortions on different types of diagnostic and assessment data (see Caplan & Cosgrove, 2004; Garb, 2005). Although research on information processing bias has traditionally emphasized the impact of cognitive dynamics (Kahneman, 2003), in recent years increasing attention has been paid to the moderating role of emotion on judgment and prediction. Slovic, Finucane, Peters, and MacGregor (2002) documented people's tendency to use subtle emotional responses to guide decisions; in clinical settings the *affect heuristic* may cause clinicians' immediate emotional reactions to patients to inadvertently bias their conclusions, with patients who are disliked perceived as being more severely impaired (or warranting a more stigmatizing diagnosis), and those who evoke a more positive emotional response perceived as higher functioning (Robinson & Clore, 2002; Sibinga & Wu, 2010). Thus, in addition to examining the impact of stereotyping, attributional distortion, and other forms of information processing bias in diagnosis and assessment, researchers must examine the role of affect-based distortion in perceptions of and decisions regarding patients.

Beyond unresolved empirical issues, there are some practical challenges in implementing multi-method assessment in clinical settings. Most important, multi-method assessment is more time-consuming and labor-intensive than mono-method assessment, and even if research ultimately documents its value in refining diagnoses and enhancing treatment planning, many clinicians may be reluctant to devote the additional effort that multi-method assessment requires. One way to facilitate implementation of this approach going forward would be to make training in multi-method assessment a more central element of the

doctoral curriculum, thereby engaging the next generation of clinicians early in their careers. Multi-method assessment is already identified as a core feature of the American Psychological Association's (APA's) assessment competency (Krishnamurthy & Yaloff, 2010), and several writers have outlined strategies for incorporating multi-method assessment more fully into doctoral training (e.g., Brabender & Whitehead, 2011). In addition to implementing changes in the graduate curriculum, making resources which emphasize multi-method assessment strategies more readily available through Continuing Education (CE) programming can help facilitate implementation of this approach among established practitioners.

An additional practical challenge involves not implementation, but validation. Although there are established strategies for validating scores derived from individual psychological tests (and subtests), there are no agreed-upon procedures for validating the results of psychological assessment. As Cates (1999) wryly observed, he would be at a loss for words if an astute attorney (or, for that matter, and oppositional reviewer from an MCO) asked him to provide evidence regarding the reliability and validity of an assessment battery. He went on to note that “the care provided in the development of psychological tests overlooks the use of these techniques in combination in a battery” (Cates, 1999, p. 632). The Standards for Educational and Psychological Testing (AERA et al., 2014) does not address this question either; it is an issue that remains largely unexamined, and one that warrants additional attention from psychometricians and clinical researchers.

Conclusion: Toward an Integrated, Integrative Perspective

It is difficult to predict how PD diagnosis will evolve in future versions of the diagnostic manuals. A compelling case can be made for conceptualizing personality and PDs from a dimensional perspective insofar as this perspective enables clinicians and researchers to capture the strength of an underlying behavioral predisposition, and the severity of a PD or PD-related trait. Dimensional PD models also have the advantage of providing more nuanced descriptions of individual patients (Krueger et al., 2012; Widiger et al., 2012), and aligning more closely with basic research in personality (Bornstein, 2009; Millon, 2011), thereby helping unify two areas of inquiry—research in personality pathology and studies of the underlying elements of personality—that despite their common history have diverged in recent years.

That being said, no diagnostic system, no matter how carefully developed and meticulously validated, can change the human mental apparatus. The heuristic and clinical utility of traits notwithstanding, when rendering PD diagnoses clinicians typically think in terms of prototypes, and speak in terms of categories. Thus, the most heuristic and clinically useful diagnostic system may be one that combines features of the trait, prototype, and category models, and although this may seem like an unrealistically ambitious goal, preliminary work has begun to emerge documenting the feasibility and empirical rigor of such an integrated, integrative approach (see Berghuis, Kamphuis, & Verheul, 2014; Bornstein & Huprich, 2011; Hopwood et al., 2011). Beyond capturing the strengths of a combined dimensional-categorical diagnostic strategy, the frameworks articulated by Berghuis et al., Bornstein and Huprich, and Hopwood et al. include mechanisms for quantifying adaptation, resiliency, and

strength as well as impairment and dysfunction. Such a strategy has the additional advantage of including in the diagnostic record information that can help shape therapeutic goals and set the stage for interventions that enhance growth and adaptation, beyond simply ameliorating psychological dysfunction.

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Table 1
Personality Disorders in the ICD-10, DSM-5, and PDM

Diagnostic System		
ICD-10	DSM-5	PDM
Paranoid	Paranoid	Paranoid
Schizoid	Schizoid	Schizoid
Dissocial	Antisocial	Psychopathic (Antisocial)
Emotionally Unstable	Borderline	---
Histrionic	Histrionic	Hysterical (Histrionic)
Anxious/Avoidant	Avoidant	Phobic (Avoidant)
Dependent	Dependent	Dependent
Anankastic	Obsessive-Compulsive	Obsessive-Compulsive
---	Schizotypal	---
---	Narcissistic	Narcissistic
		Sadistic & Sadomasochistic
		Masochistic (Self-Defeating)
		Depressive
		Dissociative
		Somatizing
		Anxious

Note. ICD-10 (WHO, 2004) and DSM-5 (APA, 2013) use categorical classification rubrics; the PDM (APO, 2006) uses a prototype strategy.

Table 2
Trait Models Used to Conceptualize and Classify PDs

Trait Model				
ICD-11 Proposal	DSM-5 Section III	Five-Factor Model	TPQ/TCI	HEXACO
Asocial	Negative Affect	Neuroticism	Harm Avoidance	Honesty-Humility
Emotionally Unstable	Detachment	Extraversion	Novelty Seeking	Emotionality
Obsessional/Anankastic	Antagonism	Openness	Reward Dependence	Extraversion
Anxious/Dependent	Disinhibition	Agreeableness	Persistence	Agreeableness
Dissocial	Psychoticism	Conscientiousness	Self-Directedness	Conscientiousness
			Cooperativeness	Openness
			Self-Transcendence	

Note. Other influential trait perspectives include Benjamin's (1996) Structural Analysis of Social Behavior (SASB) model; Millon's (2011) biopsychosocial framework; circumplex models of personality and personality pathology (Locke, 2011; Hopwood et al., 2013); and Clark's (1993) Schedule for Nonadaptive and Adaptive Personality (SNAP). ICD-11 trait dimensions are from Tyrer et al. (2011). Trait domains included in DSM-5 Section III are assessed using the Personality Inventory for DSM-5 (PID-5; Kreuger et al., 2012); those in the Five-Factor Model (FFM) are assessed using the NEO-PI-R (Costa & McCrea, 1992). TPQ/TCI = Tridimensional Personality Questionnaire/Temperament and Character Inventory (Cloninger, Przybeck, Svaric, & Wetzell, 1994). The acronym HEXACO is derived from the first letter of each trait term, with the E in Extraversion replaced by X (Lee & Ashton, 2004).