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Examination of the Section III DSM-5 diagnostic system for personality disorders in an outpatient clinical sample

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Abstract

The DSM-5 includes a novel approach to the diagnosis of personality disorders (PDs) in Section III, in order to stimulate further research with the possibility that this proposal will be included more formally in future DSM iterations. The current study provides the first test of this proposal in a clinical sample by simultaneously examining its two primary components: a system for rating personality impairment and a newly developed dimensional model of pathological personality traits. Participants were community adults currently receiving outpatient mental health treatment who completed a semi-structured interview for DSM-IV PDs and were then rated in terms of personality impairment and pathological traits. Data on the pathological traits were also collected via self-reports using the Personality Inventory for DSM-5 (PID-5). Both sets of trait scores were compared to self-report measures of general personality traits, internalizing symptoms, and externalizing behaviors. Inter-rater reliabilities for the clinicians' ratings of impairment and the pathological traits were fair. The impairment ratings manifested substantial correlations with symptoms of depression and anxiety, DSM-5 PDs, and DSM-5 pathological traits. The clinician and self-reported personality trait scores demonstrated good convergence with one another, both accounted for substantial variance in DSM-IV PD constructs, and both manifested expected relations with the external criteria. The traits but not the impairment ratings demonstrated incremental validity in the prediction of the DSM-IV PDs. Overall, the current results support the general validity of several of the components of this new PD diagnostic system and point to areas that may require further modification.

Keywords

personality disorders; DSM-5; pathological personality traits

The limitations of the Diagnostic and Statistical Manual of Mental Disorders-IV (DSM-IV TR; American Psychiatric Association, 2000) personality disorder (PD) diagnostic system are well known and include extensive comorbidity, substantial heterogeneity within categories as a result of polythetic criteria sets, inadequate coverage, and arbitrary diagnostic thresholds (see Widiger, Livesley, & Clark, 2009 for a review). Additionally, researchers

have argued that the current system fails to characterize general severity of PD (e.g., Bornstein, 1998), which may be one of the most important features to assess (Morey et al., 2011).

In response to these limitations, the DSM-5 Personality and PD (DSM-5 PPD) Work Group put forth a proposal for DSM-5 that used the presence of personality-related impairment and pathological personality traits to make PD diagnoses. However, the DSM-5 PPD proposal was not accepted as the official diagnostic system for use in the DSM-5. Rather, the DSM-IV categorical model was retained in DSM-5 as the official diagnostic system while this new approach was included in Section III (for “emerging measures and models”) of DSM-5 in order to encourage further study. This decision appears to have been based on the limited research support for the specific components of the new model, as well as the relatively strong and vocal opposition to various aspects of the new approach, such as the use of personality traits, utilization of these traits to recreate DSM-IV PDs, elimination of 40% of the DSM-IV PDs, and reliance on new and untested models of functioning and personality (e.g., Gunderson, 2010; Mullins-Sweat, Bernstein, & Widiger, 2012). Nonetheless, it is likely that components of this alternative approach will play some role in future iterations of the DSM. The eventual use of these components, some of which have long been considered inevitable (e.g., Frances, 1993), will likely be predicated on the performance of this diagnostic model when subjected to rigorous empirical examination.

The DSM-5 Section III model of PD diagnosis put forth a revised definition of PD in an attempt to separate general PD “severity” (**Criterion A**: Significant impairments in self (identity or self-direction) and interpersonal (empathy or intimacy) functioning) from “style.” **Criterion B**: One or more pathological personality trait domains or trait facets). In order to assess Criterion A, the DSM-5 Section III PD approach includes an index of the overall severity of personality impairment in these two domains. To assess Criterion B, a dimensional model of pathological personality traits was constructed with the idea that these traits would replace the diagnostic criteria used in DSM-IV. Additionally, the DSM-5 Section III approach specifies that only 6 of the 10 DSM-IV PDs are retained (i.e., schizotypal, antisocial, borderline, narcissistic, avoidant, obsessive-compulsive) and changed the PDNOS category to a PD-Trait Specified diagnosis. For each specific PD, the DSM-5 Section III PD model specifies the traits that should be elevated in order to meet criteria for diagnosis. For example, the diagnosis of Narcissistic PD in this alternative model requires evidence of self and interpersonal dysfunction as well as elevated scores on the traits of Attention Seeking and Grandiosity.

Criterion A Rationale and Measure Development

The rationale for Criterion A was that the DSM-IV system confounds PD severity and style, such that multiple PD diagnoses capture core features of a general severity of personality dysfunction dimension, leading to diagnostic comorbidity and limiting the clinical utility of individual PD diagnosis (Morey et al., 2011). Additionally, it is argued that a distinct system for assessing impairment in personality functioning is necessary to justify diagnosis and capture varying degrees of severity. In support of this rationale, Hopwood et al. (2011) found evidence for a general PD severity dimension in addition to independent stylistic

elements of individual PD categories; both aspects were related to impairment at a 10-year follow-up. Bender, Morey, and Skodol (2011) described the process by which a model of personality functioning was developed for use in the DSM-5 Section III approach for PDs. More specifically, a variety of measures were reviewed (e.g., Quality of Object Relations Scale; Azim, Piper, Segal, Nixon, & Duncan, 1991) and several key components of personality functioning were identified that were related to conceptualizations of the self and the self in relation to others. Following an iterative process that included empirical analyses (i.e., Morey et al., 2011), public comment by experts outside of the DSM-5 Work Group, and attempts to remove language that was viewed as being too “unfamiliar or rely excessively on a particular theoretical jargon” (Bender et al., p. 340), the final Section III DSM-5 model of personality dysfunction comprised two broad domains, each of which is composed of two more specific dimensions: 1) *Self*: Identity, Self- Direction, and 2) *Interpersonal*: Empathy, Intimacy. These impairment domains were operationalized using the newly developed Levels of Personality Functioning Scale (LPF), which can be used to provide ratings on the severity of personality impairment in these domains. To date, there are no published studies validating this measure as an assessment of severity of personality impairment.

Criterion B Rationale and Measure Development

The rationale for Criterion B was derived primarily from existing research supporting the advantages of dimensional models of personality in the conceptualization and assessment of PDs (e.g., Krueger & Eaton, 2010). There is a substantial body of literature documenting the success of dimensional trait models of personality from both general (see Widiger & Costa, 2013, for a review) and pathological trait perspectives (e.g., Clark, 1993; Livesley, 1990) including the ability of trait approaches to capture official DSM-IV PD types (e.g., Miller, 2012). Advocates for trait conceptualizations of PD highlight the usefulness of dimensional trait models in explaining comorbidity (Lynam & Widiger, 2001), sex differences (Lynam & Widiger, 2007), and even changes in PDs over time (Vachon et al., 2013). Dimensional models of personality may also explain how and why PDs covary with a variety of other disorders including mood, anxiety, and substance use-related disorders (see Krueger et al., 2011).

The DSM-5 trait model is composed of 5 broader domains (i.e., Negative Affectivity, Detachment, Antagonism, Disinhibition, and Psychoticism) and 25 more specific facets (e.g., Eccentricity). The facets are not equally distributed across domains, in that some domains are characterized by six facets (i.e., Detachment) whereas other domains are characterized by only three facets (i.e., Psychoticism). In addition, some facets are represented in multiple domains (e.g., Hostility). Although descriptions of the personality model changed over time, the domains of the DSM-5 trait model are now described as “maladaptive variants of the extensively validated and replicated model of personality known as the “Big Five,” or Five-Factor Model of personality (FFM), and are also similar to the domains of the Personality Psychology Five (PSY-5).” APA, 2013, p. 773). The FFM is a lexically-based model of general personality that includes the traits of Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness, whereas the PSY-5 (Harkness & McNulty, 1994; Harkness, Finn, McNulty, & Shields, 2012) includes

the traits of Aggressiveness, Psychoticism, Constraint, Negative Emotionality, and Extraversion/Positive Emotionality. The new DSM-5 trait model can be assessed using self-reports via the Personality Inventory for DSM-5 (PID-5; Krueger, Derringer, Markon, Watson, & Skodol, 2012) or clinician ratings via the DSM-5 Clinicians' Personality Trait Rating Form (i.e., Clinicians' PTRF).

Research Support for Criterion B Measures

There are two published studies demonstrating empirical support for the psychometric validity of the self-report PID-5 measure (Krueger et al., 2012; Wright, Thomas et al., 2012) and several other studies have examined the PID-5 in relation to alternative personality models such as the FFM, HEXACO, interpersonal circumplex, and the PSY-5 (e.g., Anderson et al., 2013; Ashton, Lee, deVries, Hendrickse, & Born, 2012; Thomas et al., 2013; Wright, Pincus et al., 2012) or specific PD constructs (Miller, Gentile, Wilson, & Campbell, 2013). To date, these studies have examined the measure in undergraduate or internet samples using self-report data.

Hopwood and colleagues (2012) presented the only data that tested the validity of both Criterion A and Criterion B components of the proposal together. In a large undergraduate sample, these authors found that self-reported DSM-5 traits proposed for use in the diagnosis of the six retained PD types accounted for between 28% (obsessive-compulsive) and 54% (schizotypal) of the variance in self-report DSM-IV PD scores. However, non-proposed traits accounted for significant additional variance for several PDs, suggesting that a more complex trait profile may be required to fully capture certain PDs. Furthermore, this study also demonstrated that a general PD severity composite (a composite of 10 specific DSM-IV PD criteria) accounted for incremental variance in the DSM-IV PDs beyond PID-5 traits, providing initial support for the distinction between Criterion A and B in the proposal.

The provision of a trait model in DSM-5 suggests that clinicians will need to be able to provide reliable and valid trait ratings using the newly developed clinician rating form (i.e., PTRF). To date, there are no published studies validating the Clinicians' PTRF and very little research exists examining whether clinicians can rate personality traits reliably unless a semi-structured interview is used (i.e., Structured Interview for the Five-Factor Model of Personality [SIFFM]; Trull & Widiger, 1997), which has yet to be developed for the DSM-5 trait model. In general, self-reported and informant-reported personality traits demonstrate moderate convergence. A meta-analysis of self-other convergence for the Big Five found that convergence ranged from .39 (Agreeableness) to .51 (Extraversion) and that frequency of interaction and interpersonal intimacy acted as moderators of convergence (Connelly & Ones, 2010).

To our knowledge, only one study has explicitly examined the reliability of clinician ratings of dimensional personality traits (Few et al., 2010). This study evaluated a single-item clinician rating form of the FFM and found fair inter-rater reliability across clinicians. These clinician trait ratings were also used to score DSM-IV PDs, which demonstrated good convergence with DSM-IV PD scores and predicted more unique variance in impairment variables than did the DSM-IV PDs (Miller et al., 2010). These findings support the use of

clinician ratings of dimensional personality traits and their utility in generating valid PD constructs. It is critical to determine, however, whether clinicians can reliably rate the DSM-5's personality traits and whether these ratings relate to constructs relevant to personality pathology.

Current Study

The aim of the current study was to examine the validity of the DSM-5 Section III model of PD diagnosis in an outpatient clinical sample. More specifically, we tested the reliability and validity of the following Criterion A and B measures of the proposal: 1) self-reported pathological traits as assessed by the PID-5, 2) clinician-rated pathological personality traits as assessed by the Clinicians' PTRF, and 3) clinician-rated severity of personality impairment as assessed by the LPF scale. Specifically, we examined the inter-rater reliability of clinician-rated personality trait and severity ratings using the Clinicians' PTRF and LPF following a clinical assessment interview (i.e., Structured Clinical Interview for DSM-IV Axis II Personality Disorders [SCID-II; First, Gibbon, Spitzer, Williams, & Benjamin, 1997]). Furthermore, we examined whether individuals currently receiving outpatient mental health treatment could provide reliable and valid self-reported dimensional personality trait data using the PID-5. The criterion validity of the LPF impairment ratings was tested by examining the correlations between the four impairment domains and symptoms of emotional distress (e.g., depression), as well as symptoms of general personality impairment (i.e., sum of all DSM-IV PD symptoms), individual DSM-IV PDs, and DSM-5 traits. We also examined the relations between the proposed pathological traits (using both clinician-rated and self-report data) and a) a measure of the FFM b) DSM-IV PDs¹ and c) internalizing symptoms and externalizing behaviors. Finally, we tested the incremental validity of clinician ratings of personality impairment and pathological traits in accounting for variance in the DSM-IV PDs.

Method

Participants and Procedures

Inclusionary criteria were as follows: 1) currently in psychological/psychiatric treatment, 2) aged 18–65, 3) minimum of an 8th grade education, and 4) use of a computer 3 or more days per week (to ensure ability to complete computerized assessments). Individuals could not participate if they were experiencing psychotic symptoms or were currently receiving inpatient treatment. Advertisements were posted in local newspapers and area mental health treatment facilities. The advertisement called for individuals “currently receiving mental health treatment” to contact the laboratory if interested in participating in a research study “examining relationships between personality and behavior.” Interested participants contacted the laboratory via telephone and provided verbal consent prior to being administered a screening questionnaire that assessed relevant inclusionary and exclusionary criteria. Eligible participants were then scheduled for a 3-hr in-person assessment session.

¹The DSM-IV PDs are now the official PDs used in DSM-5, but we refer to them as DSM-IV PDs to avoid confusion since the focus here is on the alternative PD model included in Section III of the DSM-5.

Upon arrival to the lab, the study consent form was verbally reviewed with the participant. Following informed consent, a trained graduate student interviewer conducted a videotaped, semi-structured PD assessment and completed clinician ratings of pathological personality traits and severity of personality impairment. Observer ratings of DSM-IV PD diagnostic criteria, pathological personality traits, and severity of personality impairment were completed using the videotaped interview by one of the remaining raters. Following the interview, participants completed several self-report assessments, were debriefed and compensated \$30. Data from 110 participants were collected; one participant was removed from the sample due to non-compliance, resulting in a final sample of 109 participants (71% female; *Mean* age = 35.9 [*SD* = 12.7]; 90% White; 6% Black; 3% Asian). Participants reported, on average, 8.8 (*SD* = 9.7) individual psychotherapy sessions and 3.5 (*SD* = 4.31) appointments for pharmacotherapy management in the last six months. Twenty-two percent of the participants had been hospitalized for psychiatric reasons in their lifetime.

Of the 109 individuals, 84 self-reported one or more current psychiatric diagnoses. Sixty six participants reported a current mood disorder, 31 reported a current anxiety disorder, 7 reported an attention deficit/hyperactivity disorder, 6 reported a personality disorder, and 1 reported an alcohol use disorder. Of the 25 who did not report a current diagnosis, 22 indicated that they were currently undergoing treatment for symptoms of depression and/or anxiety.

Measures

Structured Clinical Interview for DSM-IV Axis II Personality Disorders. (SCID-II; First et al., 1997): The SCID-II is a semi-structured interview that assesses the 10 DSM-IV PDs. Each PD criterion is scored using a 0 (i.e., absent), 1 (i.e., subclinical), or 2 (i.e., present) rating. Administration training consisted of reading and discussing the SCID-II manual, watching a videotaped SCID-II interview, rating the videotaped participant independently, and discussion of each symptom rating and any discrepancies. See Table 1 for a description of the data sources for all subsequent constructs and analyses.

Intraclass correlations were computed using the interviewer ratings and observer ratings generated via videotaped interview ($n = 103$; six interviews could not be coded by an observer due to technical difficulties with the video equipment, and therefore, were not included in these analyses) to assess the inter-rater reliability of the SCID-II ratings. Intraclass correlations ranged from .79 (Schizotypal PD) to .92 (Avoidant and Borderline PDs). In order to minimize common method variance in analyses utilizing DSM-5 clinician traits ratings, observer ratings were used to generate dimensional DSM-IV PD scores (i.e., summation of ratings [1s and 2s] across symptoms for each DSM-IV PD); however, for the six interviews that did not have observer ratings, the interviewer's ratings were used. Alphas for the DSM-IV PD scores ranged from .68 (Obsessive-Compulsive PD) to .84 (Antisocial PD) with a median of .74. The mean dimensional counts for these PDs ranged from 1.78 (Histrionic PD) to 4.91 (Borderline PD) with a median of 3.32. In terms of categorical diagnoses, 37.6% of the sample met criteria for at least one DSM-IV PD; the most common diagnoses were Avoidant (19.3%) and Borderline PD (11%).

DSM-5 Criterion A measure

Levels of Personality Functioning Scale (LPF; APA, 2011): The LPF scale is used to characterize severity of personality impairment on four dimensions (*Self*: Identity [$M = 1.68$; $SD = 1.0$], Self-direction [$M = 1.52$; $SD = .95$]; *Interpersonal*: Empathy [$M = 1.28$; $SD = 1.04$], Intimacy [$M = 1.79$; $SD = 1.09$]), each of which is rated on a scale of 0 (healthy functioning) to 4 (extreme impairment). Clinician ratings on these four dimensions were completed by the interviewer following administration of the SCID-II. Rater training consisted of watching a videotaped SCID-II interview, rating the four dimensions independently, and discussion of each rating and examination of discrepancies. All analyses with the LPF were conducted using the interviewer's ratings.

DSM-5 Criterion B measures

DSM-5 Clinicians' Personality Trait Rating Form (DSM-5 Clinicians' PTRF; APA, 2011): This rating form uses a single-item to assess each of the 25 proposed traits subsumed by five trait domains: Negative Affectivity, Detachment, Antagonism, Disinhibition, and Psychoticism. Clinicians provided a 0 (i.e., "very little or not at all descriptive") to 3 (i.e., "extremely descriptive") rating based on their perceived presence of a given trait. Facet ratings for each domain are summed to provide a domain score (e.g., Psychoticism = Unusual Beliefs and Experiences + Eccentricity + Cognitive and Perceptual Dysregulation). Rater training consisted of watching a videotaped SCID-II interview, rating the 25 traits independently, and discussion of each trait rating and discrepancies. All analyses were conducted using the interviewer's ratings. Alphas for the domains ranged from .76 to .89.

Personality Inventory for DSM-5 (PID-5; Krueger et al., 2012): The PID-5 is a 220-item self-report measure of the 25 personality traits articulated in the DSM-5 PD trait model. In the current study, alphas for the facets ranged from .78 to .95. Domain scores were computed by summing the trait scales identified as loading on these domains based on the DSM-5 website and recent factor analytic data from Krueger, Derringer et al. (2012); therefore, certain facets were included in the summation of multiple domains. Alphas for the domains ranged from .91 to .96.

Revised NEO Personality Inventory (NEO PI-R): The NEO PI-R (Costa & McCrae, 1992) is a 240-item, self-report measure of the FFM of personality. It assesses the five broad personality domains of the Five Factor Model (i.e., Neuroticism, Extraversion, Openness, Agreeableness, Conscientiousness), as well as the six lower-order facets underlying each dimension. Alphas for the domains ranged from .89 to .95.

Crime and Analogous Behavior scale (CAB; Miller & Lynam, 2003): The CAB is a self-report inventory that assesses a variety of externalizing behaviors, including substance use and antisocial behavior. A lifetime drug use variety count was created by giving participants a 1 for every drug endorsed (8 items; e.g., cocaine; $\alpha = .79$; $M = 2.88$, $SD = 2.21$). A lifetime antisocial behavior count was created by giving participants a 1 for every relevant act endorsed (10 items; e.g., stealing; $\alpha = .77$; $M = 2.31$, $SD = 2.16$).

Alcohol Use Disorders Identification Test (AUDIT; Saunders, Aasland, Babor, de la Fuente, & Grant, 1993): The AUDIT is a 10-item self-report measure of problematic alcohol consumption. In the current study, 98 participants completed the AUDIT and only the total score was examined ($\alpha = .90$); scores ranged from 0–36, with a mean of 8.36 ($SD = 8.18$).

Patient-Reported Outcomes Measurement Information System (PROMIS) – Emotional Distress - Anxiety, Depression – Short Forms (Pilkonis, Choi, Reise, Stover, Riley, & Cella, 2011): The PROMIS ANX and DEP are brief self-report questionnaires designed to assess the experience of a particular emotion over the past 7 days. The mean ANX and DEP scores were 22.15 ($SD = 6.50$; $\alpha = .94$) and 22.20 ($SD = 9.17$; $\alpha = .97$), respectively.

Brief Symptom Inventory (BSI; Derogatis, 1993): The BSI is a 53-item self-report inventory designed to assess psychiatric symptoms and provides scores on nine Symptom Scales (i.e., Somatization, Obsessive-Compulsive, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation, and Psychoticism), as well as a Global Severity Index (GSI). The GSI, which is used here ($\alpha = .97$), is simply the average of all 53 items.

Analyses and Results

Given the number of analyses conducted in the current study, the significance level was lowered to $p < .01$ for all analyses in order to reduce type I error.

Reliability

Inter-rater reliability of clinician-rated DSM-5 traits and severity of impairment

—Inter-rater reliabilities for the domains and facets of the Clinicians' PTRF were evaluated using the double-entry q -correlation, which is an intraclass correlation (ICC_{DE} ; see McCrae, 2008 for a review). According to Cicchetti and Sparrow's (1981) guidelines for inter-rater agreement, coefficients below .40 are indicative of poor inter-rater reliability, coefficients between .40 and .59 are indicative of fair agreement, and coefficients greater than .60 are indicative of good agreement. For the facet ratings, the ICC_{DES} ranged from .12 (Perseveration) to .83 (Impulsivity) with a median of .55 (see Table 2). For the single-item domain ratings, ICC_{DES} ranged from .50 (Negative Affectivity) to .82 (Disinhibition). Domain inter-rater reliability was also examined by computing the ICC_{DES} for domain scores generated by summation of relevant facets. For the summed domain ratings, ICC_{DES} ranged from .58 (Negative Affectivity) to .84 (Disinhibition).

Inter-rater reliabilities of the clinician ratings on the LPF scale were also examined. The ICC_{DES} for Identity, Self-Direction, Empathy, and Intimacy were .49, .47, .49, and .47, respectively. In order to minimize common method variance, clinician-rated DSM-5 traits and LPF ratings provided by the interviewer were used in all subsequent analyses when examined in relation to the DSM-IV PDs, which were scored using the observer ratings.

Relations between self-reported and clinician-rated DSM-5 traits—To examine the convergence and divergence between self-reported (PID-5) and clinician-rated (CR)

DSM-5 traits, correlations between pathological domains and facets from the PID-5 and Clinicians' PTRF were computed.² All five domains were significantly correlated with their respective counterpart (e.g., PID-5 Neuroticism with PTRF Neuroticism; see Table 2); convergent correlations ranged from .50 (Psychoticism) to .68 (Negative Affectivity) with a median of .63. Discriminant correlations ranged from .10 (PID-5 Detachment and CR Antagonism) to .52 (PID-5 Detachment and CR Negative Affectivity) with a median correlation of .26. All five clinician-rated domains manifested their largest correlations with their PID-5 counterpart.

For the facets, all convergent correlations were significant and ranged from .32 (Perseverance) to .68 (Withdrawal) with a median of .48. Divergent correlations ranged from $-.30$ (CR Intimacy Avoidance – PID-5 Attention Seeking) to .68 (CR Risk Taking – PID-5 Impulsivity), with a median correlation of .21. Seventeen of the 25 facets manifested their largest correlation with the same trait measured using the alternative measure (e.g., CR Hostility and PID-5 Hostility); notably, 7 of the 8 remaining facets manifested their largest correlation with another trait within the same domain (e.g., CR Eccentricity – PID-5 Unusual Beliefs).³

Validity of the LPF Impairment Ratings

Next, we examined the correlations between the LPF impairment ratings and symptoms of emotional distress (anxiety, depression, global severity of symptoms) and personality impairment (i.e., sum of all DSM-IV PDs; individual DSM-IV PDs; DSM-5 self-report traits) scores. As expected, both the self (i.e., Identity; Self-direction) and interpersonal (Empathy; Intimacy) domains were significantly positively correlated with the majority variables (see Table 3). For instance, impairment in Identity was significantly correlated with anxiety, depression, and global severity ($r_s = .56, .61, \text{ and } .72$, respectively), the sum of DSM-IV PDs ($r = .59$) and four of the five DSM-5 trait domains ($r_s = .69, .58, .31, .29, \text{ and } .52$ for Negative Affectivity, Detachment, Antagonism, Disinhibition, and Psychoticism, respectively).

Consistent with the notion that impairment is an important correlate of general PD severity, all four impairment domains manifested large correlations with the sum of the DSM-IV interview-based symptoms of PD (r_s ranged from .53 to .59). The impairment ratings were also generally correlated with the individual DSM-IV PDs, although certain PDs manifested more limited correlations (e.g., Obsessive-Compulsive PD), as one would expect.

Validity of DSM-5 Clinicians' PTRF and PID-5

DSM-5 traits and Five-Factor Model (FFM) traits—Both CR and PID-5 DSM-5 domains were examined in relation to FFM domains, as assessed by the NEO PI-R (see Table 4). For these and all subsequent analyses, CR domain scores were based on the

²These and all subsequent analyses were also run excluding data for the six participants without secondary ratings. Results were nearly identical for all analyses; as such, the results for the full sample are reported here.

³Convergence of CR and PID-5 traits was affected by inter-rater reliability, such that the correlation between the 25 ICCs (Table 2, column 2) and corresponding cross-method correlations (Table 2, column 3) was significant and large ($r = .55$), suggesting that reliability had a significant effect on the convergent validity of the CR traits. We thank an anonymous reviewer for this suggested analysis.

summation of facet ratings comprising each domain. As expected, both CR and PID-5 Negative Affectivity were most strongly correlated with Neuroticism ($r_s = .66$ and $.87$, respectively). CR and PID-5 Detachment were most strongly negatively correlated with Extraversion ($r_s = -.66$ and $-.72$, respectively). CR and PID-5 Antagonism were most strongly negatively related to Agreeableness ($r_s = -.55$ and $-.73$, respectively), and CR and PID-5 Disinhibition were most strongly negatively correlated with Conscientiousness ($r_s = -.47$ and $-.71$, respectively). CR and PID-5 Psychoticism were uncorrelated with Openness ($r_s = -.03$ and $.07$, respectively). Instead, PID-5 Psychoticism was most strongly correlated with Neuroticism ($.48$) and was also negatively correlated with Conscientiousness ($-.37$), Agreeableness ($-.30$), and Extraversion ($-.28$). CR Psychoticism was unrelated to all NEO PI-R domains.

DSM-5 traits and DSM-IV PDs—In order to test the usefulness of DSM-5 traits in accounting for the DSM-IV PD constructs, two sets of hierarchical multiple regression analyses were conducted. In the first set of analyses, the DSM-IV PDs (based on observer ratings using the SCID-II to avoid method overlap with the CR PD traits) were regressed on all the traits specified for diagnosis of each PD by the DSM-5 PPD Work Group at Step 1. The same analytic strategy was used in the second set of analyses with the exception that self-report PID-5 traits were used instead of clinician-ratings. At Step 2, the remaining DSM-5 traits were included. Adjusted R-squared and adjusted change in R-squared values are reported (see Table 5).

When using the clinician ratings, the traits specified for use in the diagnosis of each DSM-IV PD accounted for between 33% (Obsessive-Compulsive PD) and 69% (Antisocial PD) of the variance (mean adjusted R-squared = $.45$) at Step 1. The specified PID-5 traits accounted for between 24% (Histrionic PD) and 49% (Paranoid and Borderline PDs) of the variance in PD types (mean adjusted R-squared = $.37$) at Step 1. At Step 2, the remaining DSM-5 traits accounted for, on average, an additional 5% of the variance at step 2 using both the clinician and self-report traits. Mean adjusted R-squared and change in R-squared values were also calculated across the three DSM-IV clusters; in general, regardless of scoring methodology (self vs. clinician ratings; 25 traits vs. hypothesized traits), the specified DSM-5 traits accounted for the least amount of variance in the Cluster C PDs.

DSM-5 traits and internalizing symptoms and externalizing behaviors—

Simultaneous regression analyses were next conducted to examine DSM-5 personality domains in relation to internalizing symptoms and externalizing behaviors (see Table 6). CR traits accounted for 37%, 44%, and 57% of the variance in the PROMIS ANX and DEP scales, as well as the Global Severity Index of the BSI, respectively; self-reported PID-5 traits accounted for greater variance in outcome variables: 57%, 63%, and 72% of the variance in the PROMIS ANX and DEP scales, as well as the GSI, respectively. In general, Negative Affectivity and Detachment emerged as the most consistent unique correlates of internalizing symptoms.

With regard to externalizing behaviors (as assessed using the CAB and AUDIT), CR traits accounted for 21%, 34%, and 29% of the variance in alcohol use, drug use, and antisocial behavior, respectively. PID-5 traits significantly accounted for 15% and 25% of the variance

in alcohol and drug use, respectively, but did not account for significant variance in antisocial behavior. A similar pattern was manifested across CR and PID-5 traits, in that Disinhibition emerged as the most consistent unique correlate of these externalizing outcomes (all three outcomes using the CR ratings; one of three outcomes using the PID-5).

Incremental Validity of Criterion A and B—In order to examine the incremental validity of Criterion A and B, two sets of hierarchical multiple regression analyses were conducted (see Table 7). In the first model, each of the DSM-IV PDs was regressed on the four Criterion A impairment ratings (i.e., LPF) at Step 1 and on the Criterion B CR traits hypothesized to comprise each PD at Step 2.⁴ The incremental validity of impairment ratings beyond CR traits was then examined by reversing Step 1 and Step 2. Adjusted R-squared values were generated given the differential number of predictors. The CR DSM-5 traits accounted for between 14% (Avoidant PD) and 50% (Antisocial PD) of additional variance in DSM-IV PDs above and beyond LPF ratings (mean change in adjusted R-squared = .27); however, LPF ratings did not account for significant additional variance in any of the DSM-IV PDs when the CR DSM-5 traits were entered at Step 1 (mean change in adjusted R-squared = .02).

Discussion

The goal of the current study was to examine the central components of the new, alternative approach to the diagnosis of PDs included in Section III of the DSM-5 using data collected from community adults who were currently participating in mental health treatment. More specifically, the current study examined the reliability and validity of 1) severity of personality impairment ratings as assessed by the Levels of Personality Functioning scale (LPF), 2) self-reported pathological traits as assessed by the Personality Inventory for DSM-5 (PID-5), and 3) clinician-rated (CR) pathological personality traits as assessed by the Clinicians' Personality Trait Rating Form (Clinicians' PTRF).

Reliability of Criterion A: Measurement of personality impairment

The clinicians' ratings of the four impairment scales, using the LPF, demonstrated fair (Cicchetti & Sparrow, 1981) inter-rater reliability with coefficients ranging from .47 to .49, which exceeds the overall inter-rater reliability found for personality impairment in the DSM-5 Field Trials (.42; Skodol, Morey, Bender, & Oldham, in press). Key members of the DSM-5 have argued that inter-rater reliability coefficients of .40 to .60 for dimensional DSM-5 constructs, like those found in the current study, fall in the "acceptable" range (Kraemer, Kupfer, Clarke, Narrow, & Regier, 2012). Although these are acceptable coefficients, especially given the relatively limited familiarity the current raters had with the participants, they are slightly lower than the agreement found for most of the CR pathological personality traits (*median* = .55). One factor that may have limited inter-rater reliability is the raters' relative lack of familiarity with the model of personality impairment measured by the LPF (and the LPF itself) as this model and measure were created *de novo* for the DSM-5 PPD proposal. Pilkonis and colleagues (2011) suggested that the language of

⁴Only clinician-rated Criterion B personality traits were used in these analyses in order to provide a fair comparison with Criterion A severity ratings, which were also completed by clinicians.

the LPF scale is derived primarily from object-relations and social-cognitive theories that may be unfamiliar to most clinicians. For example, the following is the description for a rating of “4” on the *identity* dimension within the Self-functioning domain:

“Weak or distorted self-image easily threatened by interactions with others; significant distortions and confusion around self-appraisal.”

In addition, these ratings are complex in that each score for each impairment domain contains multiple phrases and individuals may not fit each part equally. In Clark and Watson’s (1995) seminal paper on the creation of objective scales they suggest that “writers should be careful to avoid complex or “double-barreled” items that actually assess more than one characteristic” as “respondents will interpret complex items in different ways” and “their responses will reflect the heterogeneity of their interpretations” (p. 312). Although Clark and Watson’s suggestions were written with regard to the development of self-report instruments, we believe they are relevant for ratings scales like these as well. Nonetheless, despite the complexity of some of the descriptions used for the impairment ratings, the current results provide moderate support for the inter-rater reliability of the LPF scale, consistent with the results found in the DSM-5 Field Trials.

Reliability of Criterion B: The Proposed Dimensional Trait Model

With regard to the pathological trait model, the self-report PID-5 measure demonstrated good internal consistency for both the domains and the facets. The median coefficient alpha for the facets in the current study (i.e., .87) is nearly identical to data from previously published studies examining the PID-5 in non-clinical samples (e.g., Hopwood et al., 2011: *median* $\alpha = .86$; Krueger et al., 2012: *median* $\alpha = .86$). Although internal consistency of the facets of the Clinicians’ PTRF cannot be examined as these traits are assessed using a single-item rating, internal consistency of the clinician-rated domains was computed and suggested adequate to good internal consistency (i.e., .76 – .89).

One unique aspect of the DSM-5 Section III PD model is the utilization of clinician-rated personality traits (vs. symptom criteria) in the assessment and diagnosis of PDs. For DSM-IV and 5 PD diagnoses, clinicians are directed to assess individual PD criteria, which tend to be hybrids of traits and more specific behaviors (e.g., McGlashan et al., 2005). However, there is a dearth of research that has examined whether clinicians can reliably rate personality traits without the use of an explicit semi-structured interview designed for those very traits (i.e., SIFFM). In the current study, inter-rater reliabilities of the single-item domains and facets were examined. Consistent with research on the reliability of clinicians’ ratings of general traits (Few et al., 2010), DSM-5 Negative Affectivity manifested the lowest convergence across raters, whereas DSM-5 Disinhibition manifested the highest convergence. More generally, the median inter-reliability coefficient for the DSM-5 facets in the current study (i.e., .55) suggests that clinicians can provide reasonably reliable ratings of the pathological personality traits.

Convergence between CR and PID-5 traits was also examined. Based on previous research examining self-other convergence of normal personality traits (e.g., McCrae et al., 2004; Miller, Pilkonis, & Clifton, 2005), it was expected that convergence would be highest for

Detachment and Conscientiousness and lowest for Negative Affectivity and Antagonism. Results from the current study partially supported this hypothesis in that convergent correlations, at the domain and facet level, were lowest for Antagonism and Psychoticism, and strongest for Detachment and Disinhibition. The strongest convergent correlation, however, was found for the Negative Affectivity domain. Previous studies that have found lower convergent correlations for Neuroticism have utilized significant others, family, or friends as the informant rater (e.g., Miller, Pilkonis, & Clifton, 2005). In the current study, however, the “other” raters were clinical psychology doctoral students who scored these traits on the basis of answers from a semi-structured PD interview, which may have given these raters greater access to the presence of internalizing traits, especially since many of the DSM-IV PDs involve negative affectivity or neuroticism (Samuel & Widiger, 2008). Conversely, it is possible that convergence was lowest for Psychoticism because only a few DSM-IV PDs tap into traits associated with this domain (i.e., schizotypal PD), whereas the other four personality domains comprise traits characteristic of multiple PDs (e.g., antagonism: Paranoid, Antisocial, Borderline, Narcissistic PDs; Samuel & Widiger, 2008). As such, the raters in this study may simply have had less of an opportunity to inquire about the behaviors, cognitions, or emotions that correspond with Psychoticism, thus making it more difficult to rate validly following the PD interview. An alternative explanation is that the utilization of a clinical sample that excluded individuals reporting psychotic symptoms may have resulted in restricted variance for the Psychoticism dimension.

Validity of Criterion A: Personality Impairment

The validity of the DSM-5 impairment ratings was tested by examining their correlations with measures of emotional distress symptoms and symptom severity, as well as PD symptoms including a sum of all DSM-IV PD symptoms, individual DSM-IV PD scores, and self-report DSM-5 traits. All four impairment ratings were generally correlated with emotional distress (*mean r* = .46) and symptom severity (*mean r* = .58).⁵ As one would expect, impairments in Empathy were generally less strongly correlated with emotional distress symptoms than were problems in Identity, Self-direction, and Intimacy.

Similarly, all four impairment ratings were strongly correlated with the sum of all DSM-IV PD symptoms (*mean r* = .56). With regard to the individual DSM-IV PDs, impairments in Identity were significantly correlated with 6 of 10 PDs (*median r* = .37), impairment in Self-direction were correlated with 6 of 10 (*median r* = .30), impairments in Empathy were correlated with 7 of 10 (*median r* = .34), and impairments in Intimacy were correlated with 7 of 10 (*median r* = .38). Across the impairment domains, the DSM-IV PDs most strongly associated with impairment were Borderline (*mean r* = .55), Schizotypal (*mean r* = .49), Antisocial (*mean r* = .41), and Paranoid (*mean r* = .40). The DSM-IV PDs most weakly associated with global impairment were Obsessive-Compulsive (*mean r* = .13), Histrionic (*mean r* = .19), and Narcissistic (*mean r* = .22). These findings almost perfectly mirror those reported by Morey and colleagues (2011) who used item-response theory analyses to examine the impairment associated with the DSM-IV PDs. Obsessive-compulsive PD was

⁵Correlations were transformed using Fisher-z transformations before being averaged; once averaged, these scores were transformed back into correlations.

uncorrelated with all impairment ratings, whereas histrionic and narcissistic manifested more limited impairment, with both manifesting significant positive correlations only with empathic difficulties.

The impairment ratings were also evaluated with regard to the self-report DSM-5 trait domains. The impairment domains were generally associated with all five trait domains with mean correlations ranging from .36 (Empathy) to .49 (Identity). From a trait perspective, Negative Affectivity was most strongly associated with global impairment (*mean r* = .53) and Disinhibition was the least strongly associated (*mean r* = .29). Overall, the LPF impairment ratings appear to be valid markers of personality dysfunction.

Validity of Criterion B: The Proposed Dimensional Trait Model

As expected the DSM-5 pathological personality domains were significantly correlated with the FFM domains in largely hypothesized ways. Both self- and clinician-rated DSM-5 domains of Negative Affectivity, Antagonism, Disinhibition, and Detachment manifested strong convergent validity coefficients with self-report NEO PI-R domains of Neuroticism, Agreeableness, Conscientiousness, and Extraversion, respectively. Across the two rating methodologies (self; clinician), the mean convergent correlation across the DSM-5 and FFM for these four domains was .69. This is generally consistent with the DSM-5's statement that the new trait model represents an extension of the Five-Factor Model (APA, 2013). Neither the self nor clinician-rated Psychoticism domain correlated with the NEO PI-R domain of Openness, however, which is consistent with Ashton et al.'s (2012) findings that facets of FFM Openness and PID-5 Psychoticism loaded on different factors and is in line with a body of work demonstrating relatively weak correlations between FFM Openness and pathological personality constructs (Samuel & Widiger, 2008). It is inconsistent, however, with two recent studies that found that PID-5 Psychoticism facets loaded with FFM Openness in factor analyses of these types of instruments (Gore & Widiger, 2013; Thomas et al., 2013).

In general, there is significant debate regarding the overlap between these dimensions. For instance, Watson, Clark, and Chmielewski (2008) demonstrated that the best fitting model of personality structure includes distinct factors for Openness and Oddity, the latter of which is conceptually similar to DSM-5 Psychoticism. Widiger (2011), however, argues that Openness comprises more extreme maladaptive variants such as oddity but that this content is not well represented in certain FFM measures (e.g., NEO PI-R). Haigler and Widiger's study (2001) supported this explanation in that they found that rewording items from the NEO PI-R to reflect greater maladaptivity led to significant associations between Openness and Schizotypal PD. In addition, Openness, as assessed by alternative FFM measures (e.g., Structured Interview for the Five Factor Model), has been shown to relate to Schizotypal pathology (Samuel & Widiger, 2008). As it stands currently, it is unclear whether the null relation between FFM Openness and DSM-5 Psychoticism in the current study suggests that these are distinct constructs or whether this finding reflects the manner in which Openness was assessed (i.e., NEO PI-R).

A primary focus of the current study was to examine whether DSM-5 traits relate to existing PD constructs as hypothesized by the DSM-5 PPD Work Group and whether the traits

hypothesized are sufficiently comprehensive in their coverage of PDs. The current data suggest that hypothesized CR and PID-5 pathological traits explain substantial proportions of the variance in their respective DSM-IV PDs. The specified traits accounted for 45% and 37% of the variance (using adjusted R-squared values) in the DSM-IV PDs, using the CR and PID-5 ratings, respectively. The greater variance accounted for by the CR traits most likely reflects the role of common method variance in that both were rated by clinicians (although not the same clinician in the vast majority of cases). Hopwood and colleagues (2012) found that non-specified traits proved useful in accounting for additional variance in Avoidant, Obsessive-Compulsive, and Narcissistic PDs. In the current study, non-specified traits accounted for statistically significant additional variance in Avoidant PD (CR traits only), although non-significant but small to moderate effect sizes were also found for Schizoid (SR traits only), Narcissistic (CR data only), Dependent (CR and SR traits), and Obsessive-Compulsive PDs (SR traits only). The lack of statistically significant increments in these analyses, despite moderate effect sizes, is due in part to the limited power in these analyses (small N; large degrees of freedom). Findings from these two studies suggest that traits that are important to the assessment and conceptualization of certain PDs may have been omitted and that more empirical research is needed to elucidate the most comprehensive trait profile for each the proposed PD types. It is not surprising that two of the PDs for which this has been demonstrated – Narcissistic and Obsessive-Compulsive – are measured with a small number of traits (2 and 4, respectively). It may be that the addition of just one or two traits thought to be central to these disorders might provide for a more full and valid description of these PDs. Samuel and colleagues (2012) collected expert ratings of each of the DSM-IV PDs in relation to the DSM-5 trait model, which might provide some insight as to what other traits might be important. For instance, with regard to Narcissistic PD, the experts rated the traits of Callousness and Manipulativeness as being the most descriptive along with the two already included in its assessment. Another noteworthy finding from the current study was that CR traits accounted for greater variance in Cluster B PDs relative to self-reported traits. These findings are consistent with research demonstrating that other-rated personality traits provide unique information relative to self-reported traits in the prediction of PDs, especially Cluster B PDs (Carlson, Vazire, & Oltmanns, 2013; Miller, Pilkonis, & Clifton, 2005).

To further validate the DSM-5 pathological trait model, DSM-5 traits were also examined in relation to relevant behavioral and psychological outcomes including externalizing behaviors and internalizing symptoms. In general, the pattern of findings was similar across CR and PID-5 traits. Consistent with expectations, both CR and PID-5 Negative Affectivity were most strongly related to internalizing symptoms and Disinhibition was most strongly related to externalizing pathology. Inconsistent with the extant literature (e.g., Kotov et al., 2010; Jones, Miller, & Lynam, 2011), however, was the lack of a significant relationship between Antagonism and externalizing behavior (although the relationship between PID-5 Antagonism and AUDIT scores was significant at the .05 level). Two meta-analytic reviews have found that Agreeableness, from an FFM perspective, is a more robust correlate of externalizing behaviors such as antisociality and aggression than Conscientiousness (Jones, Miller, & Lynam, 2011; Miller & Lynam, 2001). One potential explanation for the current findings is that certain NEO PI-R Agreeableness facets most strongly linked to externalizing

outcomes (i.e., Compliance) may not be well represented by the DSM-5 Antagonism domain. Detailed empirical examination of facet level relations between the DSM-5 and FFM traits are necessary, however, to support this explanation. It is possible that the DSM-5 Antagonism domain may require the addition of a trait or two so as to perform in expected ways with regard to vital parts of this trait's nomological network.

Utility of Severity of Personality Impairment Assessment

A criticism of the DSM-IV (and 5) diagnostic model for PDs is the lack of a separate and explicit assessment of severity of personality impairment, which resulted in the development of an explicit model of impairment included in Section III PD diagnostic approach. In the current study, clinician LPF ratings accounted for significant variance in 8 of 10 DSM-IV PDs. Importantly, however, these impairment ratings did not account for incremental variance in any of the DSM-IV PDs above and beyond the CR DSM-5 traits proposed for each PD. These results conflict with Hopwood et al.'s (2012) finding in which a general PD severity dimension provided additional information about DSM-IV PDs above and beyond the PID-5 traits. This discrepancy likely reflects differences in the methods used in the two studies. In the current study utilizing an outpatient mental health sample, impairment was rated using the official rating form that involved ratings of the four impairment domains included in the DSM-5 Section III PD model. Alternatively, Hopwood and colleagues measured impairment in an undergraduate sample using a composite of 10 self-report PD symptoms that had proven to be most related to PD severity in a previous study (i.e., Morey et al., 2011).

One explanation for the failure of the DSM-5 impairment ratings to provide incremental validity is that severity of personality impairment may not be distinct from pathological personality traits, a sentiment echoed in previous research observing minimal distinction between measures of personality traits and impairment (Hill, 2000). A close examination of the descriptions of the pathological traits on the Clinicians' PTRF highlights the potential difficulty in disentangling pathological traits from severity of personality impairment. For example, when rating a patient's level of Callousness, clinicians are asked to rate the degree to which the individual manifests a "lack of concern for feelings or problems of others; lack of guilt or remorse about the negative or harmful effects of one's actions on others; aggression; sadism" (APA, 2011). This description of callousness overlaps substantially with the impairment in Empathy described in the LPF (e.g., "generally unaware of or unconcerned about effect of own behavior on others...") and impairment in Intimacy ("Little mutuality; others are primarily conceptualized primarily in terms of how they affect the self [negatively or positively]"; APA, 2011). These data suggest that the separate assessment of personality impairment and pathological personality traits may be unnecessary, at least as articulated in the current Section III approach to PD diagnosis, as evidence of the presence of pathological personality traits implies impairment. This is a critical issue and additional research is needed to further test whether the absence of a unique contribution by the LPF dimensions is a function of the scale itself or an indicator that severity of personality impairment may be inherent in dimensions of pathological personality.

Strengths and Limitations

This is the first study to date, to our knowledge, that has examined all the central components of the DSM-5 PPD proposal using a) the official measures created for diagnosis of PDs in Section III of the DSM-5 (LPF, PTRF, PID-5), b) clinician and self-report data, and c) a clinical sample. Existing studies have provided support for the proposed model but have relied on self-report data collected in undergraduate or internet samples. Although the latter research is a useful first step in demonstrating the reliability and validity of the trait model, it is likely that clinician ratings will ultimately be considered the “gold standard” for diagnostic purposes in clinical settings. Along these lines, the current study also utilized a clinical sample, which provides better external validity and allows for more definitive conclusions regarding the performance of this diagnostic system in clinical settings.

Although there were several methodological strengths to this study, several limitations are worth noting. First, the clinical interviewers received circumscribed additional training regarding the proposed trait and severity ratings beyond the training these doctoral students had already received as part of their academic, clinical, and research training. Each rater was provided with the SCID-II training manual, the Clinicians’ PTRF and LPF, and rated one videotaped interview, followed by discussions of discrepancies with the primary investigator. Second, raters had no knowledge of the participants outside of what was gleaned during this one assessment session. It is possible that inter-rater reliability and convergent validity may have improved had the raters had greater familiarity with the participants (which might be the case in certain clinical settings where PD diagnoses may not be made until after several therapeutic sessions have passed). Third, inter-rater reliability analyses were based on an observer providing ratings of impairment, DSM-IV PDs, and DSM-5 traits based on an interview conducted by a separate individual. A “cleaner” and more rigorous design would have entailed an examination of the inter-rater reliability of these ratings generated following two independent interviews, although this approach is very rarely used given the substantial time and resources that this methodology requires. Fourth, the questionnaires used here did not include validity scales; as such, we were not able to remove participants’ data in the case of problematically careless or random responding. Finally, clinician ratings of the proposed traits were made on the basis of a DSM-IV PD interview, rather than an interview designed to explicitly assess these proposed DSM-5 traits (which does not exist at this time). Given these limitations, it is possible that the current results, with regard to inter-rater reliability and validity, are indicative of the lower bounds of these statistics. That is, with more extensive training, greater familiarity with the participants, and an interview designed to assess the proposed traits, one might be able to improve inter-rater reliability and convergent validity.

Conclusions

The results of the current study provide initial support for the reliability and validity of the DSM-5 Section III PD approach. Clinicians can rate individuals on the 25 dimensional traits and four impairment domains with acceptable reliability and these ratings manifest reasonable convergence with a self-report measure of the proposed traits (i.e., PID-5), alternative self-report personality instruments (i.e., NEO PI-R), and relevant behavioral and psychological variables (e.g., internalizing and externalizing symptoms). The self-report

data collected on the DSM-5 traits using the PID-5 also converged with the NEO PI-R, as well as relevant behavioral and psychological outcomes as expected. Furthermore, the hypothesized DSM-5 traits generally provided adequate coverage of DSM-IV PDs, albeit potentially less comprehensively for certain PDs (e.g., Obsessive-Compulsive PD) than others (e.g., Borderline PD). Nonetheless, further study is necessary to see if these algorithms can be improved so as to maximize the variance accounted for in the DSM-IV PDs. Lastly, the current study provides support for the reliability and validity of the impairment ratings using the LPF scale in relation to symptoms of emotional distress and PDs, as well as symptom severity. However, the current findings suggest that the impairment ratings may have limited clinical utility in that they did not provide incremental information beyond pathological personality traits in the explanation of PD constructs, whereas the traits did account for additional variance beyond the impairment ratings. Further research of this type will be critical in determining the future of this new proposal – that is, whether the entirety of this proposal or parts of it eventually replace the DSM-IV PD model.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

References

- American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 4. Washington, DC: American Psychiatric Association; 2000. revised
- American Psychiatric Association. DSM-5 Clinicians' Personality Trait Rating Form. 2011. Retrieved from <http://www.dsm5.org/ProposedRevisions/Pages/PersonalityandPersonalityDisorders.aspx>
- American Psychiatric Association. Changes to the reformulation of personality disorders for DSM-5. Jun 21. 2011 Retrieved from <http://www.dsm5.org/ProposedRevisions/Pages/PersonalityandPersonalityDisorders.aspx>
- Anderson JL, Sellbom M, Bagby RM, Quilty LC, Veltri CO, Markon KE, Krueger RF. On the convergence between PSY-5 domains and PID-5 domains and facets: Implications for assessment of DSM-5 personality traits. *Assessment*. 2013; 20:286–294. [PubMed: 23297369]
- Ashton MC, Lee K, de Vries RE, Hendrickse J, Born M. 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*. 2012; 26:641–659.10.1521/pedi.2012.26.5.641 [PubMed: 23013335]
- Azim HFA, Piper WE, Segal PM, Nixon GWH, Duncan S. The quality of object relations scale. *Bulletin of the Menninger Clinic*. 1991; 55:323–343. [PubMed: 1893231]
- Bender DS, Morey LC, Skodol AE. Toward a model for assessing level of personality functioning in DSM–5, Part I: A review of theory and methods. *Journal of personality assessment*. 2011; 93(4): 332–346. [PubMed: 22804672]
- Bornstein RF. Reconceptualizing personality disorder diagnosis in the DSM-V: The discriminant validity challenge. *Clinical Psychology: Science and Practice*. 1998; 5:333–343.10.1111/j.1468-2850.1998.tb00153.x
- Carlson EN, Vazire S, Oltmanns S. Self-other knowledge asymmetries in personality pathology. *Journal of Personality*. 2013; 81:155–170.10.1111/j.1467-6494.2012.00794.x [PubMed: 22583054]
- Cicchetti DV, Sparrow SS. Developing criteria for establishing interrater reliability of specific items: Applications to assessment of adaptive behavior. *American Journal of Mental Deficiency*. 1981; 86:127–137. [PubMed: 7315877]
- Clark, LA. *Manual for the Schedule for Nonadaptive and Adaptive Personality (SNAP)*. Minneapolis: University of Minnesota Press; 1993.

- Clark LA, Watson D. Constructing validity: Basic issues in objective scale development. *Psychological Assessment*. 1995; 7:309–319.10.1037/1040-3590.7.3.309
- Connelly BS, Ones DS. An other perspective on personality: Meta-analytic integration of observers' accuracy and predictive validity. *Psychological Bulletin*. 2010; 136:1092–1122.10.1037/a0021212 [PubMed: 21038940]
- Costa, PT.; McCrae, RR. Revised NEO Personality Inventory (NEO-PI-R) and NEO Five-Factor Inventory (NEO-FFI) professional manual. Odessa, FL: Psychological Assessment Resources; 1992.
- Derogatis, LR. Brief Symptom Inventory. Administration, Scoring, and Procedures Manual. 4. Minneapolis, MN: National Computer Systems; 1993.
- Few LR, Miller JD, Morse JQ, Yaggi KE, Reynolds SK, Pilkonis PA. Examining the reliability and validity of clinician ratings on the Five-Factor Model Score Sheet. *Assessment*. 2010; 17:440–453.10.1177/1073191110372210 [PubMed: 20519735]
- First, MB.; Gibbon, M.; Spitzer, RL.; Williams, JBW.; Benjamin, LS. Structured Clinical Interview for DSM–IV Axis II disorders (SCID-II). Washington, DC: American Psychiatric Press; 1997.
- Frances A. Dimensional diagnosis of personality--not whether, but when and which. *Psychological Inquiry*. 1993; 4:110–111.
- Gore WL, Widiger TA. The DSM-5 dimensional trait model and five factor models of general personality. *Journal of Abnormal Psychology*. 2013; 122:816–821. [PubMed: 23815395]
- Gunderson JG. Commentary on “Personality traits and the classification of mental disorders: Toward a more complete integration in DSM-5 and an empirical model of psychopathology”. *Personality Disorders: Theory, Research, And Treatment*. 2010; 1:119–122.10.1037/a0019974
- Haigler ED, Widiger TA. Experimental manipulation of NEO PI-R items. *Journal of Personality Assessment*. 2001; 77:339–358.10.1207/S15327752JPA7702_14 [PubMed: 11693863]
- Harkness AR, Finn JA, McNulty JL, Shields SM. The Personality Psychopathology—Five (PSY–5): Recent constructive replication and assessment literature review. *Psychological Assessment*. 2012; 24:432–443.10.1037/a0025830 [PubMed: 21988184]
- Harkness, AR.; McNulty, JL. The personality psychopathology five (PSY-5): Issue from the pages of a diagnostic manual instead of a dictionary. In: Strack, S.; Lorr, M., editors. *Differentiating normal and abnormal personality*. New York: Springer; 1994. p. 291-315.
- Hill J, Fudge H, Harrington R, Pickles A, Rutter M. Complementary approaches to the assessment of personality disorder: The Personality Assessment Schedule and Adult Personality Functioning Assessment compared. *The British Journal of Psychiatry*. 2000:176434–439.10.1192/bjp.176.5.434
- Hopwood CJ, Malone JC, Ansell EB, Sanislow CA, Grilo CM, et al. Personality assessment in DSM-5: Empirical support for rating severity, style, and traits. *Journal of Personality Disorders*. 2011; 25:305–320.10.1521/pedi.2011.25.3.305 [PubMed: 21699393]
- Hopwood CJ, Thomas KM, Markon KE, Wright AGC, Krueger RF. DSM-5 personality traits and DSM-IV personality disorders. *Journal of Abnormal Psychology*. 2012; 121:424–432.10.1037/a0026656 [PubMed: 22250660]
- Jones SE, Miller JD, Lynam DR. Personality, antisocial behavior, and aggression: A meta-analytic review. *Journal of Criminal Justice*. 2011; 39:329–337.10.1016/j.jcrimjus.2011.03.004
- Kotov R, Gamez W, Schmidt F, Watson D. Linking “big” personality traits to anxiety, depressive, and substance use disorders: A meta-analysis. *Psychological Bulletin*. 2010; 136:768–821.10.1037/a0020327 [PubMed: 20804236]
- Kraemer HC, Kupfer DJ, Clarke DE, Narrow WE, Regier DA. DSM-5: How reliable is reliable enough. *American Journal of Psychiatry*. 2012; 169:13–15. [PubMed: 22223009]
- Krueger RF, Derringer J, Markon KE, Watson D, Skodol AE. Initial construction of a maladaptive personality trait model and inventory for DSM–5. *Psychological Medicine*. 2012; 42:1879–1890.10.1017/S0033291711002674 [PubMed: 22153017]
- Krueger RF, Eaton NR. Personality traits and the classification of mental disorders: Toward a more complete integration in DSM–5 and an empirical model of psychopathology. *Personality Disorders: Theory, Research, and Treatment*. 2010; 1:97–118.10.1037/a0018990

- Livesley, WJ. Dimensional Assessment of Personality Pathology-Basic Questionnaire. University of British Columbia; Vancouver, British Columbia, Canada: 1990. Unpublished manuscript
- Lynam DR, Widiger TA. Using the five-factor model to represent the DSM-IV personality disorders: An expert consensus approach. *Journal of Abnormal Psychology*. 2001; 110:401–412.10.1037/0021-843X.110.3.401 [PubMed: 11502083]
- Lynam DR, Widiger TA. Using a general model of personality to understand sex differences in the personality disorders. *Journal of Personality Disorders*. 2007; 21:583–602.10.1521/pedi.2007.21.6.583 [PubMed: 18072861]
- McCrae RR. A note on some measures of profile agreement. *Journal of Personality Assessment*. 2008; 90:105–109.10.1080/00223890701845104 [PubMed: 18444102]
- McCrae RR, Costa PT, Martin TA, Oryol VE, Rukavishnikov AA, Senin IG, et al. Consensual validation of personality traits across cultures. *Journal of Research in Personality*. 2004; 38:179–201.10.1016/S0092-6566(03)00056-4
- McGlashan TH, Grilo CM, Sanislow CA, Ralevski E, Morey LC, Gunderson JG, Pagano ME. Two-year prevalence and stability of individual DSM-IV criteria for schizotypal, borderline, avoidant, and obsessive-compulsive personality disorders: toward a hybrid model of axis II disorders. *American Journal of Psychiatry*. 2005; 162:883–889.10.1176/appi.ajp.162.5.883 [PubMed: 15863789]
- Miller JD. Five-Factor Model personality disorder prototypes: A review of their development, validity, and comparison with alternative approaches. *Journal of Personality*. 2012; 80:1565–1591. [PubMed: 22321333]
- Miller JD, Gentile B, Wilson L, Campbell WK. Grandiose and vulnerable narcissism and the DSM-5 pathological personality trait model. *Journal of Personality Assessment*. 2013; 95:284–290. [PubMed: 22594764]
- Miller JD, Lynam DR. Structural models of personality and their relation to antisocial behavior: A meta-analysis. *Criminology*. 2001; 39:765–798.10.1111/j.1745-9125.2001.tb00940.x
- Miller JD, Lynam DR. Psychopathy and the Five-factor model of personality: A replication and extension. *Journal of Personality Assessment*. 2003; 81:168–178.10.1207/S15327752JPA8102_08 [PubMed: 12946923]
- Miller JD, Maples J, Few LR, Morse JQ, Yaggi KE, Pilkonis PA. Using clinician-rated Five-Factor Model data to score the DSM-IV personality disorders. *Journal of Personality Assessment*. 2010; 92:296–305.10.1080/00223891.2010.481984 [PubMed: 20552504]
- Miller JD, Pilkonis PA, Clifton A. Self- and other-reports of traits from the Five-Factor Model: Relations to personality disorder. *Journal of Personality Disorders*. 2005; 19:400–419.10.1521/pedi.2005.19.4.400 [PubMed: 16178682]
- Morey LC, Berghuis H, Bender DS, Verheul R, Krueger RF, Skodol AE. 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*. 2011; 93:347–353.10.1080/00223891.2011.577853 [PubMed: 22804673]
- Mullins-Sweatt SN, Bernstein DP, Widiger TA. Retention or deletion of personality disorder diagnoses for DSM-5: An expert consensus approach. *Journal Of Personality Disorders*. 2012; 26:689–703.10.1521/pedi.2012.26.5.689 [PubMed: 23013338]
- Pilkonis PA, Choi SW, Reise SP, Stover AM, Riley WT, Cella D. Item banks for measuring emotional distress from the Patient-Reported Outcomes Measurement Information System (PROMIS™): Depression, anxiety, and anger. *Assessment*. 2011; 18:263–283.10.1177/1073191111411667 [PubMed: 21697139]
- Pilkonis PA, Hallquist MN, Morse JQ, Stepp SD. Striking the (im)proper balance between scientific advances and clinical utility: Commentary on the DSM-5 proposal for personality disorders. *Personality Disorders: Theory, Research, and Treatment*. 2011; 2:68–82.10.1037/a0022226
- Samuel DB, Lynam DR, Widiger TA, Ball SA. An expert consensus approach to relating the proposed DSM-5 types and traits. *Personality Disorders: Theory, Research, and Treatment; Personality Disorders: Theory, Research, and Treatment*. 2012; 3:1–16.10.1037/a0023787

- Samuel DB, Widiger TA. A meta-analytic review of the relationships between the five-factor model and DSM-IV-TR personality disorders: A facet level analysis. *Clinical Psychology Review*. 2008; 28:1326–1342.10.1016/j.cpr.2008.07.002 [PubMed: 18708274]
- Saunders JB, Aasland OG, Babor TF, de la Fuente JR, Grant M. Development of the Alcohol Use Disorders Identification Test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption. II. *Addiction*. 1993; 88:791–804.10.1111/j.1360-0443.1993.tb02093.x [PubMed: 8329970]
- Skodol AE, Morey LC, Bender DS, Oldham JM. The ironic fate of the personality disorders in DSM-5. *Personality Disorders: Theory, Research, and Treatment*. in press.
- Thomas KM, Yalch MM, Krueger RF, Wright AG, Markon KE, Hopwood CJ. The convergent structure of DSM-5 personality trait facets and Five-Factor Model trait domains. *Assessment*. 2013; 20:308–311. [PubMed: 22946103]
- Trull, TJ.; Widiger, TA. *Structured Interview for the Five-Factor Model of Personality (SIFFM): Professional manual*. Odessa, FL: Psychological Assessment Resources; 1997.
- Vachon DD, Lynam DR, Widiger TA, Miller JD, McCrae RR, Costa PT. Using basic traits to predict personality disorder prevalence across the lifespan: The example of psychopathy. *Psychological Science*. 2013; 24:698–705. [PubMed: 23528790]
- Watson D, Clark LA, Chmielewski M. Structures of personality and their relevant to psychopathology: II. Further articulation of a comprehensive unified trait structure. *Journal of Personality*. 2008; 76:1485–1522.10.1111/j.1467-6494.2008.00531.x [PubMed: 19012656]
- Widiger TA. A shaky future for personality disorders. *Personality Disorders: Theory, Research, and Treatment*. 2011; 2:54–67.10.1037/a0021855
- Widiger TA. Integrating normal and abnormal personality structure: A proposal for DSM-V. *Journal of Personality Disorders*. 2011; 25:338–363.10.1521/pedi.2011.25.3.338 [PubMed: 21699396]
- Widiger, TA.; Costa, PT. *Personality Disorders and the Five Factor Model of Personality*. 3. Washington, DC: APA; 2013.
- Widiger TA, Livesley W, Clark L. An integrative dimensional classification of personality disorder. *Psychological Assessment*. 2009; 21:243–255.10.1037/a0016606 [PubMed: 19719338]
- Wright AGC, Thomas KM, Hopwood CJ, Markon KE, Pincus AL, Krueger RF. The hierarchical structure of DSM-5 pathological personality traits. *Journal of Abnormal Psychology*. 2012; 121:951–957.10.1037/a0027669 [PubMed: 22448740]
- Wright AGC, Pincus AL, Hopwood CJ, Thomas KM, Markon KE, Krueger RF. An interpersonal analysis of pathological personality traits in DSM-5. *Assessment*. 2012; 19:263–275.10.1177/1073191112446657 [PubMed: 22589411]

Table 1

Description of data sources for the reliability and validity analyses

Interview	PTRE, LPF for Reliability Analyses	PTRE, LPF for Validity Analyses	DSM-IV PD Ratings for Reliability Analyses	DSM-IV PD Ratings for Validity Analysis	PID-5, NEO PI-R, CAB, AUDIT, PROMIS, BSI
Interviewer	X	X	X		
Observer	X		X	X	
Participant					X

Note: X = indicates where the data were derived from for all core constructs and analyses. The interviewer provided these ratings for the PTRE, LPF, and DSM-IV PDs for 6 patients not rated by an observer due to technical difficulties. PTRE= DSM-5 Clinicians' Personality Trait Rating Form; LPF = Levels of Personality Functioning; PID-5 = Personality Inventory for DSM-5; NEO PI-R = Revised NEO Personality Inventory; CAB = Crime and Analogous Behavior Scale; AUDIT = Alcohol Use Disorders Identification Test; PROMIS = Patient-Reported Outcomes Measurement Information System (PROMIS) – Emotional Distress - Anxiety, Depression – Short Forms; BSI = Brief Symptom Inventory.

Table 2

Descriptive Statistics for DSM-5 Traits, Inter-rater Reliability of Clinician-rated DSM-5 Traits and Convergence among Traits

	Clinician-rated DSM-5 Traits (PTRF)		ICC _{DE}	Convergence among CR and PID-5 traits
	Mean	SD		
<u>DSM-5 Domains</u>				
Negative Affectivity	2.13	0.85	.50	.68*
Detachment	1.39	0.92	.61	.66*
Antagonism	0.88	0.89	.62	.53*
Disinhibition	1.38	1.05	.82	.63*
Psychoticism	0.83	0.95	.58	.50*
<u>DSM-5 Facets</u>				
Emotional Lability	1.52	1.12	.32	.55*
Anxiousness	1.92	0.93	.42	.47*
Separation Insecurity	1.43	1.09	.53	.60*
Perseveration	0.99	0.95	.12	.32*
Submissiveness	0.97	0.99	.60	.40*
Hostility	1.04	0.97	.61	.62*
Depressivity	1.95	0.91	.55	.62*
Suspiciousness	1.25	1.08	.55	.67*
Restricted Affectivity	0.63	0.89	.53	.36*
Withdrawal	1.23	1.03	.61	.68*
Anhedonia	0.87	1.06	.73	.66*
Intimacy Avoidance	0.96	1.00	.49	.39*
Manipulativeness	0.42	0.75	.65	.41*
Deceitfulness	0.45	0.75	.71	.43*
Grandiosity	0.87	.97	.48	.36*
Attention Seeking	0.78	1.00	.53	.52*
Callousness	0.50	0.69	.54	.53*
Irresponsibility	1.09	0.99	.64	.61*
Impulsivity	1.49	1.16	.83	.64*
Distractibility	1.13	0.99	.60	.48*
Risk Taking	1.02	1.05	.72	.55*
Rigid Perfectionism	1.18	1.05	.39	.39*
Unusual Beliefs	0.77	1.01	.70	.60*
Eccentricity	0.68	0.95	.37	.35*

	Clinician-rated DSM-5 Traits (PTRF)		ICC _{DE}	Convergence among CR and PID-5 traits
	Mean	SD		
Cognitive Dysregulation	0.73	0.99	.48	.45*

Note:

* $p < .01$; ICC_{DE} = double-entry intraclass correlation; CR = clinician-rated; PID-5 = Personality Inventory for DSM-5 (self-report)

Table 3

Criterion validity of the Levels of Personality Functioning Scale

	Impairment Ratings			
	Self		Interpersonal	
	Identity	Self-directedness	Empathy	Intimacy
Emotional Distress				
Anxiety	.56*	.43*	.27*	.43*
Depression	.61*	.49*	.36*	.51*
BSI Global Severity Index	.72*	.58*	.42*	.57*
DSM-IV PDs				
Sum of DSM-IV PD symptoms	.59*	.53*	.54*	.57*
Paranoid	.38*	.31*	.46*	.44*
Schizoid	.23	.16	.30*	.48*
Schizotypal	.50*	.46*	.50*	.51*
Antisocial	.36*	.47*	.40*	.40*
Borderline	.62*	.56*	.49*	.51*
Histrionic	.15	.23	.26*	.12
Narcissistic	.07	.21	.38*	.20
Avoidant	.44*	.28*	.17	.36*
Dependent	.42*	.31*	.20	.35*
Obsessive-Compulsive	.21	.09	.11	.10
DSM-5 Traits (PID-5)				
Negative Affectivity	.69*	.51*	.37*	.50*
Detachment	.58*	.46*	.41*	.54*
Antagonism	.31*	.24	.43*	.36*
Disinhibition	.29	.33*	.24	.30*
Psychoticism	.52*	.43*	.33*	.41*

Note:

*
p .01

Table 4

Correlations between DSM-5 and FFM personality domains

NEO PI-R Domains	Negative Affectivity		Detachment		Antagonism		Disinhibition		Psychoticism	
	CR	PID	CR	PID	CR	PID	CR	PID	CR	PID
Neuroticism	.66*	.87*	.37*	.68*	.17	.40*	.26*	.36*	.15	.48*
Extraversion	-.25*	-.38*	-.66*	-.72*	.24	-.05	.10	.05	-.02	-.28*
Agreeableness	-.31*	-.40*	-.21	-.32*	-.55*	-.73*	-.31*	-.29*	-.19	-.30*
Conscientiousness	-.33*	-.47*	-.22	-.43*	-.08	-.36*	-.47*	-.71*	-.13	-.37
Openness	-.11	-.15	-.26*	-.32*	-.04	-.14	.05	.17	-.03	.07

Note:

* $p < .01$; FFM = Five Factor Model; CR = clinician-rated; PID = Personality Inventory for DSM-5 (self-report); NEO PI-R = NEO Personality Inventory-Revised

Table 5

Regression of SCID-II PDs on DSM-5 specified and unspecified Traits

	CR-count	CR-remaining traits	PID-count	PID-remaining traits
	Adjusted R²	Change in Adjusted R²	Adjusted R²	Change in Adjusted R²
Paranoid	.45*	.07	.49*	.00
Schizoid	.44*	.02	.39*	.09
Schizotypal	.48*	.02	.41*	.02
Mean	.46	.04	.43	.04
Antisocial	.69*	.03	.44*	.01
Borderline	.65*	.01	.49*	.06
Histrionic	.45*	.00	.24*	.04
Narcissistic	.35	.08	.29*	.03
Mean	.54	.03	.37	.04
Avoidant	.32	.20*	.35*	.08
Dependent	.36	.03	.34*	.04
Obsessive- Compulsive	.33	.00	.27*	.08
Mean	.34	.08	.32	.07

Note:

* $p < .01$; CR = clinician-rated; PID = Personality Inventory for DSM-5 (self-report). At step 1, the traits specified by the DSM-5 PPD Work Group for each PD were entered. At step 2, the remaining traits were entered.

Table 6

Simultaneous regression analyses of internalizing symptoms and externalizing behaviors on DSM-5 domains

	Anxiety		Depression		GSI		Alcohol		Drug		ASB	
	B	β	B	β	B	β	B	β	B	β	B	β
PTRF												
Negative Affect	.49*	.42*	.51*	.16	-.25	-.10						
Detachment	.27*	.36*	.31*	-.07	.29*	.11						
Antagonism	-.15	-.19	-.08	.16	.04	.13						
Disinhibition	.07	.16	.18	.31*	.51*	.44*						
Psychoticism	-.09	-.02	-.01	-.12	.17	.07						
R²	.37*	.44*	.57*	.21*	.34*	.29*						
PID-5												
Negative Affect	.63*	.53*	.58*	.03	-.03	-.18						
Detachment	.08	.32*	.16	-.09	.15	.10						
Antagonism	-.10	-.08	-.10	.30	-.03	.21						
Disinhibition	-.02	.05	.07	.04	.33*	.09						
Psychoticism	.19	.04	.24*	.13	.18	.20						
R²	.57*	.63*	.72*	.15*	.25*	.14						

Note:

* $p < .01$; Analyses were conducted separately (PTRF only; PID-5 only). PTRF = Clinicians' Personality Trait Rating Form; PID-5 = Personality Inventory for DSM-5 (self-report); GSI = Global Severity Index from the Brief Symptom Inventory; ASB = antisocial behavior;

Table 7

Incremental Validity of Clinician Trait and Impairment Ratings

	Impairment Adj. R ²	CR-Trait Counts	Adj R ²
Paranoid	.22*	.24*	
Schizoid	.27*	.20*	
Schizotypal	.30*	.23*	
Antisocial	.21*	.50*	
Borderline	.40*	.25*	
Histrionic	.06	.39*	
Narcissistic	.14*	.20*	
Avoidant	.20*	.14*	
Dependent	.16*	.18*	
Obsessive- Compulsive	.02	.33*	

	CR-Trait Counts Adj. R ²	Impairment	Adj R ²
Paranoid	.45*	.01	
Schizoid	.44*	.04	
Schizotypal	.48*	.05	
Antisocial	.69*	.02	
Borderline	.65*	.00	
Histrionic	.45*	.00	
Narcissistic	.35*	.00	
Avoidant	.32*	.02	
Dependent	.36*	.00	
Obsessive- Compulsive	.33*	.02	

Note:

* $p < .01$; Adj. = adjusted; Impairment = severity of personality impairment clinician ratings on four dimensions of Levels of Personality Functioning Scale; CR-Trait Counts = hypothesized clinician-rated traits associated with given PD