VALIDATION OF THE PROPOSED DSM-5 DIMENSIONAL DIAGNOSTIC SYSTEM FOR PERSONALITY DISORDERS

by

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(Under the Direction of Joshua D. Miller)

ABSTRACT

The current study examined the reliability and validity of two pathological personality trait measures developed by the DSM-5 Work Group, the Clinicians' Personality Trait Rating Form (Clinicians' PTRF) and the Personality Inventory for DSM-5 (PID-5). Reliability and validity of a new measure of severity of personality impairment, the Levels of Personality Functioning scale (LPF), was also evaluated. In an outpatient clinical sample of 109 participants, results suggested that the Clinicians' PTRF and PID-5 measures demonstrated good internal consistency and convergence was good across self-reported and clinician-rated traits. In addition, inter-rater reliability for DSM-5 traits using the Clinicians' PTRF was fair. In terms of validity, both trait measures accounted for substantial variance in the current Diagnostic and Statistical Manual-IV (i.e., DSM-IV) personality disorder (PD) constructs, and related to normal personality traits, externalizing symptoms, internalizing symptoms and psychological distress, and life satisfaction as expected. Lastly, inter-rater reliability for the LPF scale was modest and severity ratings did not account for incremental variance in DSM-IV PDs beyond the DSM-5 traits, suggesting that severity of PD impairment may not be distinct from the presence of pathological traits.

INDEX WORDS: personality disorders, DSM-5, pathological personality traits

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DEDICATION

I would like to dedicate this dissertation to my father, Harry Francis Few, whose courage and perseverance have been an inspiration to me throughout this process.

"*Already there was something mysterious and homelike. Nick was happy as he crawled inside the tent. He had not been unhappy all day. This was different though. Now things were done. There had been this to do. Now it was done. It had been a hard trip. He was very tired. That was done. He had made his camp. He was settled. Nothing could touch him. It was a good place to camp. He was there, in the good place. He was in his home where he had made it."*

- Ernest Hemingway
Big Two Hearted River: Part I

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TABLE OF CONTENTS

page

ACKNOWLEDGEMENTS..... v

LIST OF TABLES…..... vii

CHAPTER

1 INTRODUCTION..... 1

2 AIMS AND HYPOTHESES……..……..……... 13

3 METHOD…….……..…… 16

4 ANALYSES AND RESULTS…….……... 23

5 DISCUSSION……..…….…….. 29

REFERENCES……..… 41

APPENDICES

A LEVELS OF PERSONALITY FUNCTIONING SCALE……..…….. 61

B DSM-5 CLINICIANS' PERSONALITY TRAIT RATING FORM……. 65

LIST OF TABLES

page

Table 1: Participant characteristics……... 52

Table 2: Inter-rater reliability of clinician-rated DSM-5 traits……. 53

Table 3: Correlations between clinician-rated and self-reported DSM-5 personality domains…… 54

Table 4: Correlations between clinician-rated and self-reported DSM-5 personality facets…… 55

Table 5: Correlations between DSM-5 and FFM personality domains…… 56

Table 6: Simultaneous regression of SCID-II PDs on DSM-5 traits…… 57

Table 7: Simultaneous regression of internalizing, psychological distress, and life satisfaction variables on DSM-5 traits…….…….. 58

Table 8: Simultaneous regression of externalizing behaviors on DSM-5 traits……... 59

Table 9: Incremental validity of clinician trait and impairment ratings……... 60

CHAPTER 1

INTRODUCTION

Personality disorders (PDs) are characterized by the current Diagnostic and Statistical Manual of Mental Disorders (i.e., DSM-IV TR; American Psychiatric Association, 2000) as "an enduring pattern of inner experience and behavior that deviates markedly from the expectations of the individual's culture." This pattern must be stable, pervasive, and manifested in at least two of four areas, including cognition, affectivity, interpersonal functioning, and impulse control. In 2009, the WHO World Mental Health Surveys estimated the prevalence of PDs to be 6.1% (Huang et al., 2009).

The study of PDs has become increasingly relevant given the established implications of this pathology in extant research. Generally, PDs have been linked to significant functional impairment (e.g., Skodol, Johnson, Cohen, Sneed, & Crawford, 2007). For example, Narcissistic PD has been shown to contribute to significant dysfunction in interpersonal relationships (Miller, Campbell, & Pilkonis, 2007). Similarly, in a study comparing Borderline PD (BPD) patients to patients with mood/anxiety disorders, an Other PD group, and healthy controls, BPD patients experienced the greatest psychosocial impairment (Ansell, Sanislow, McGlashan, & Grilo, 2007). The Other PD group also experienced greater impairment in a variety of functional domains relative to healthy controls, such as social impairment, difficulty with daily household activities, and global dissatisfaction and impairment.

A recent literature review by Bornstein (2012) also demonstrated significant functional impairment associated with Dependent PD, specifically increased suicidality, perpetration of child abuse, and victimization by others (e.g., domestic violence).

In addition to functional impairment, PDs are also associated with a variety of significant clinical outcomes. For example, Antisocial PD commonly co-occurs with Axis I pathology such as substance use disorders (Compton, Conway, Stinson, Colliver, & Grant, 2005), and Axis I psychotic disorders also commonly occur with Axis II pathology; a large epidemiological study found that every PD occurs more frequently in individuals with a lifetime diagnosis of schizophrenia or a psychotic episode compared to those without, and odds ratios were highest for Dependent and Avoidant PDs (McMillan, Enns, James, & Sareen, 2009). A more specific study examining schizophrenia and schizoaffective disorders found that 17% of patients also had comorbid BPD (Bahorik & Eack, 2010). Beyond these associations, several studies have demonstrated that PDs may influence the course of Axis I disorders, both from a severity and treatment outcome standpoint. For instance, individuals with comorbid post-traumatic stress disorder (PTSD) and BPD have been found to experience poorer quality of life and are at increased risk for a lifetime suicide attempt relative to individuals with PTSD alone (Pagura, Stein, Bolton, Cox, Grant, & Sareen, 2010). BPD has also been examined in the context of eating pathology. A recent study found that the prevalence of the Eating Disorder Not Otherwise Specified (EDNOS) diagnosis was significantly higher at the 10 year follow-up for individuals with comorbid BPD (Zanarini, Reichman, Frankenburg, Reich, & Fitzmaurice, 2010). Furthermore, individuals with BPD tended to migrate to other eating disorder diagnoses following remission (e.g., from anorexia to EDNOS) more frequently than individuals without BPD.

Personality pathology has also been shown to relate to important treatment variables such as treatment utilization and satisfaction, in that individuals with Antisocial PD symptoms tend to use fewer clinical services (i.e., therapy and medication), whereas individuals with BPD symptoms tend to use more clinical services but express greater dissatisfaction with regard to helpfulness of medication in treatment (Miller, Pilkonis, & Mulvey, 2006). In a similar vein, it is important to consider both the health care and economic costs associated with PDs. Specifically, BPD is associated with significant health costs due to the increased rates of treatment utilization as a result of suicidality and self-harm behavior (e.g., Horz, Zanarini, Frankenburg, Reich, & Fitzmaurice, 2010), and Dependent PD has also been linked to high health care utilization and costs (Bornstein, 2012). Furthermore, Antisocial PD, although associated with less frequent use of clinical services, is responsible for significant economic costs due to high rates of incarceration and criminal recidivism in this population. A recent study found that 35% of a sample of 320 newly incarcerated offenders had Antisocial PD and these individuals scored higher than non-antisocial PD inmates on a measure assessing risk for recidivism (Black, Gunter, Loveless, Allen, & Sieleni, 2010). Taken together, these findings demonstrate that PDs are disabling conditions accompanied by significant personal and societal costs. Therefore, the existence of an empirically sound and feasible classification system for PDs is of paramount importance.

Currently, the field appears to be on the brink of a major shift in nosology with regard to the assessment of Axis II pathology. This shift has developed in response to extant research identifying significant limitations of the current categorical approach to PD diagnosis in the DSM-IV (see Widiger, Livesley, & Clark, 2009 for a review). These limitations include the failure of a categorical approach to explain the high levels of comorbidity in PD diagnoses.

Additionally, the polythetic criteria that are currently used to diagnose PDs (e.g., 5 of 9 Borderline PD criteria must be present for diagnosis) lead to considerable heterogeneity within diagnostic categories, thereby decreasing the clinical utility of PD diagnosis. Furthermore, the diagnostic thresholds (e.g., 5 of 9 versus 4 of 9) are arbitrary and not based on empirical research. The current categorical model also limits the ability to characterize general severity of PD, and Parker (1997) argued that this model even confounds PD severity and style. Along these lines, Hopwood et al. (2011) found evidence for a general PD severity dimension in addition to independent stylistic elements of individual PD categories. This general severity dimension was a strong predictor of impairment variables at 10-year follow-up. Importantly, the independent stylistic elements of personality pathology accounted for incremental variance in impairment, thus validating the distinction and importance of both severity and style in the accurate assessment and conceptualization of PDs. Perhaps most importantly, latent variable modeling studies of the underlying structure of personality pathology have found no evidence of 10 distinct PD domains (e.g., Widiger, Simonsen, Krueger, Livesley, & Verheul, 2005), calling into question the current distinctions between the 10 PDs classified in current nosologies.

In addition to limitations of the current categorical diagnostic model, there is strong empirical support in the field for the adoption of a dimensional trait model of PDs (e.g., Krueger & Eaton, 2010). Advocates for dimensional conceptualizations of PD highlight the usefulness of a dimensional trait model in explaining comorbidity, in that various PDs may be manifestations of the same underlying personality traits. The problem of heterogeneity in the categorical system is also minimized with a dimensional model, thereby increasing clinical utility.

For example, a patient diagnosed with Narcissistic PD could be understood more comprehensively using a dimensional trait assessment, enabling identification of specific traits that differentiate this patient from other individuals with a Narcissistic PD diagnoses, while informing clinicians of adaptive traits that could potentially be useful in treatment decision making (e.g., Openness and Conscientiousness have been shown to relate positively to treatment adherence; Miller, Pilkonis, & Mulvey, 2006).

Dimensional models of personality may also enable greater continuity between Axis I and Axis II pathology, in that understanding an individual's personality trait profile may explain the presence of comorbid PDs and Axis I conditions. Krueger, Eaton et al. (2011) suggest that the "metastructure of DSM–5 is likely to reflect the fact that patterns of comorbidity among mental disorders are structured and systematic, in ways that relate to the structure of personality" (p. 328). More specifically, this proposed metastructure for DSM-5 differentiates an emotional disorders (or internalizing) metacluster and a disinhibitory disorders (or externalizing) metacluster. Examples of the former would be mood disorders and fear disorders, whereas the latter would include substance use disorders and antisocial disorders. Krueger, Eaton et al. argue that these clusters align with core personality features such as Negative Affectivity and Disinhibition and conceptualizing psychopathology from this perspective enables greater understanding of issues of comorbidity. Extant research supports these assertions; for example, studies examining the relationship between externalizing behaviors and dimensional models of normal and pathological personality have shown that antagonistic and disinhibitory traits are most strongly linked to externalizing outcomes (Pryor, Miller, Hoffman, & Harding, 2009; Miller, Lynam, & Jones, 2008). Negative affectivity also has been shown to relate to externalizing behaviors, albeit to a lesser degree (Pryor et al., 2009); furthermore, these traits

have been consistently linked to PDs that commonly co-occur with externalizing outcomes, such as Antisocial PD and Borderline PD (Saulsman & Page, 2004). With regard to internalizing symptoms, Neuroticism from a Five Factor Model (FFM) perspective has been shown to consistently relate to anxiety and depression, whereas low Extraversion has been shown to uniquely relate to depression (see Clark, Watson, & Mineka, 1994 for review). Neuroticism has also been shown to relate to a number of PDs, such as Avoidant PD (Saulsman & Page, 2004), which helps to understand the significant co-occurrence of this PD with anxiety disorders (Ansell et al., 2011).

Despite the existing evidence in support of conceptualizing PDs using dimensional models of personality, there is resistance to the replacement of the current categorical model with a dimensional diagnostic model. Opponents of dimensional models argue that this overhaul may eliminate the familiarity and ease of diagnosis that exists with the current model and change the manner in which important constructs will be represented (e.g., Gunderson, 2010; cf, Miller, Morse, Nolf, Stepp, & Pilkonis, in press). As a result of these concerns, the Personality and PD Work Group for the upcoming DSM-5 has proposed a hybrid model of PD assessment that attempts to reconcile aspects of the current categorical system with potential benefits of a new dimensional system. The proposal has been in flux since February of 2010, but the most recent adaptation (May, 2012) describes the essential features of PD as "impairments in personality (self and interpersonal) functioning and the presence of pathological personality traits." The specific criteria are as follows:

A. *Significant impairments in self (identity or self-direction) and interpersonal (empathy or intimacy) functioning.*

B. *One or more pathological personality trait domains or trait facets.*

C. The impairments in personality functioning and the individual's personality trait expression are relatively stable across time and consistent across situations.

D. The impairments in personality functioning and the individual's personality trait expression are not better understood as normative for the individual's developmental stage or socio-cultural environment.

E. The impairments in personality functioning and the individual's personality trait expression are not solely due to the direct physiological effects of a substance (e.g., a drug of abuse, medication) or a general medical condition (e.g., severe head trauma).

Essentially, criterion A and B represent the attempt to separate general PD "severity" (Criterion A) from "style" (Criterion B). In order to assess criterion A, the Work Group has developed the Levels of Personality Functioning Scale (LPF), which rates the level of impairment on a scale from 0 to 4 across four domains. To assess Criterion B, a dimensional model of pathological personality traits was constructed that can be assessed via clinician ratings or self-report measure. These pathological personality traits can then be used to identify of one of the six PD subtypes (e.g., Borderline PD) or can be used to provide a PD-Trait Specified diagnosis (PDTS). The PDTS diagnosis will replace the former PD Not Otherwise Specified (NOS) diagnosis from DSM-IV and is "defined by significant impairment in personality functioning, as measured by the Levels of Personality Functioning scale and one or more pathological personality trait domains or trait facets."

This new proposal for the diagnosis of PD in DSM-5 has proven to be quite controversial. Researchers have argued that the new classification system lacks empirical basis, with regard to the elimination of 4 of 10 PDs (i.e., Paranoid, Schizoid, Histrionic, Dependent) as well as with the abandonment of more explicit diagnostic criterion sets (e.g., Livesley, 2010; Widiger, 2011). There has also been a plethora of criticism regarding the dimensional trait model that has been proposed. In developing the proposed model via discussion and a literature review, the Work Group identified six broad domains and 37 specific facets relevant to personality pathology. Self-

report items were then created to assess these 37 facets. Data were collected using a clinical community sample and item-response theory modeling was utilized to analyze the data, which led to the retention of only 25 of the original 37 traits. The items used to assess these 25 traits are compiled in a self-report measure, the Personality Inventory for DSM-5 (PID-5; Krueger, Derringer, Markon, Watson, & Skodol, 2012). The DSM-5 Clinicians' Personality Trait Rating Form (i.e., Clinicians' PTRF) has also been developed and is a clinician-rated single-item assessment of each of the 25 personality traits (APA, 2011). The 25 facet-level traits assessed in both the PID-5 and DSM-5 Clinicians' PTRF are subsumed by five broad personality domains: Negative Affectivity, Detachment, Antagonism, Disinhibition, and Psychoticism. 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; for example, *hostility* is encompassed by both Negative Affectivity and Antagonism.

Currently, there are two published studies demonstrating empirical support for the psychometric validity of the self-report PID-5 measure (Krueger, Derringer, Markon, Watson, & Skodol, 2011; Wright, Thomas, Hopwood, Markon, Pincus & Krueger, 2012). Two additional studies have examined the PID-5 in relation to external criteria (Ashton, Lee, deVries, Hendrickse, & Born, 2012; Hopwood, Thomas, Markon, Wright & Krueger, 2012). Ashton et al.'s work examined the PID-5 in relation to existing measures of personality, such as the NEO and the HEXACO PI-R. They extracted seven factors from a joint factor analysis of PID-5 and NEO traits. Factor 1 comprised traits primarily from PID-5 Negative Affectivity and NEO Neuroticism; Factor 2 comprised traits from PID-5 Detachment and NEO Extraversion; Factor 3 consisted of PID-5 Antagonism and NEO Agreeableness traits; PID-5 Disinhibition and NEO

Conscientiousness traits loaded on Factor 4; Factor 5 comprised traits from both PID-5 Negative Affectivity and Antagonism and NEO Neuroticism; PID-5 Psychoticism traits loaded on Factor 6 and NEO Openness traits loaded on Factor 7. This study demonstrates substantial overlap between the DSM-5 and FFM domains with the exception of PID-5 Psychoticism and FFM Openness. The Hopwood et al. study examined the PID-5 in relation to DSM-IV PDs in an undergraduate sample. This study found that self-reported DSM-5 traits proposed to be associated with the six retained PD types, accounted for between 28% (Obsessive-Compulsive) and 54% (Schizotypal) of the variance in DSM-IV PDs slated for retention in DSM-5. However, non-proposed traits accounted for significant incremental variance for Avoidant, Narcissistic, and Obsessive-Compulsive PDs, suggesting that a more complex trait profile may be required to comprehensively capture these PDs. Furthermore, this study also demonstrated that a general PD severity composite accounted for incremental variance in the DSM-IV PDs beyond PID-5 traits, thereby providing support for the distinction between Criterion A and B in the proposal. Taken together, these studies provide initial support for the reliability and validity of self-reported DSM-5 traits as well as the usefulness of a distinct severity of personality impairment component.

Despite this initial support, much of the criticism surrounding this DSM-5 trait model is that it lacks substantial empirical validation. More specifically, the model appears to be based on a number of existing personality trait models, such as the Dimensional Assessment of Personality Pathology (DAPP; Livesley, 1990) and the Schedule for Nonadaptive and Adaptive Personality (SNAP; Clark, 1993). The latter models have been extensively validated in the literature and have been shown to systematically encompass the range of personality pathology (e.g., Clark, McEwen, Collard, & Hickok, 1993). However, given that the DSM-5 model has not been

extensively evaluated in relation to relevant behavioral and psychological outcomes (Bornstein, 2011), it is unclear whether it is a reliable and valid approach to assessing personality functioning. The decision to develop a new dimensional model and associated assessment tools, rather than using one of the existing dimensional models of personality, appears to be theoretically based (Krueger, Eaton et al., 2011). From a theoretical standpoint, normal models of personality such as the FFM were not empirically designed to and may not capture the full range of personality pathology and, furthermore, some models may provide more adequate coverage of particular aspects of personality pathology than other models (e.g., PSY-5 model includes psychotic experiences as a separate domain compared to the SNAP and DAPP, which only assess psychotic experiences via one subscale each).

In addition to concerns about using a minimally researched model, there have also been criticisms regarding the lack of bipolarity in the proposed trait dimensions (Samuel, 2011; Widiger, 2011). Specifically, the use of unipolar pathological trait dimensions may not adequately capture the range of personality pathology (e.g., high Extraversion or high Agreeableness) thus limiting the utility of the model. Furthermore, assessing only degrees of *maladaptive* personality traits and failing to include normal personality traits limits the ability to identify *adaptive* traits that could be used to inform case conceptualization and treatment selection and implementation.

In light of these concerns about the new dimensional model, the current study examined the reliability and validity of this new trait model in a clinical sample. Currently, the DSM-5 proposal requires that specific maladaptive traits must be present in order to receive a PD diagnosis. This highlights the importance of achieving reliable and valid dimensional trait assessment given the requirement of this information for diagnosis. In addition, the description

of this reformulation of PD criteria also indicates that one of the changes is the "provision for clinicians to rate dimensions of personality traits." This, in combination with the newly developed DSM-5 Clinicians' PTRF, puts the onus of reliable personality trait assessment primarily on the clinician. With this is mind, it is important to note that the extant research validating the DSM-5 trait model has examined self-reported traits, and furthermore, very little research exists examining whether clinicians can rate personality traits reliably. In general, moderate convergence of self-reported and other-rated normal personality traits has been demonstrated. Although there are differences across studies, Neuroticism and Agreeableness tend to manifest lower self-other convergence, whereas Conscientiousness and Extraversion demonstrate stronger self-other convergence (Ready & Clark, 2002; McCrae et al., 2004; Miller, Pilkonis, and Clifton, 2005). In terms of magnitude, correlations across these four domains ranged from .23 to .57. Klonsky, Oltmanns, and Turkheimer (2002) conducted a meta-analysis examining self-other convergence of DSM-IV dimensional PD ratings and found a median of .36 across ten studies. Therefore, convergence of pathological traits may be somewhat lower than for normal personality traits. To my knowledge, only one study has explicitly examined clinician ratings of dimensional personality traits (Few et al., 2010) and demonstrated fair clinician inter-rater reliability (median inter-rater reliability coefficient = .52 for the 30 FFM facets). These clinician trait ratings were also used to score DSM-IV PDs (i.e., FFM PD counts; Miller, Bagby, Pilkonis, Reynolds et al. 2005) and demonstrated good convergence with expert consensus rated DSM-IV PDs (Miller, Maples, Few, Morse et al., 2010). Furthermore, the clinician rated FFM PD counts demonstrated clinical utility in predicting more unique variance in impairment variables relative to the consensus rated DSM-IV PDs. These findings support the use of

clinician ratings of dimensional personality traits and their utility in generating valid PD constructs.

However, it is critical to determine whether clinicians can reliably rate DSM-5 pathological personality traits using the Clinicians' PTRF, and whether these ratings relate to constructs relevant to personality pathology.

CHAPTER 2

AIMS AND HYPOTHESES

The primary aims of the study were to examine the reliability and validity of the following Criterion A and B measures of the DSM-5 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, I examined whether clinicians can provide reliable and valid personality trait and severity ratings following a clinical assessment interview (i.e., Structured Clinical Interview for DSM-IV Axis II Personality Disorders [SCID-II; First, Gibbon, Spitzer, Williams, & Benjamin, 2007]), and whether participants in a community mental health sample can provide reliable and valid self-reported dimensional personality trait data using the PID-5.

In terms of reliability, the PID-5 scales should demonstrate good internal consistency (e.g., Krueger, Derringer, Markon, Watson & Skodol, 2012). Based on clinician ratings of normal personality traits (Few et al., 2010), adequate inter-rater reliability of the Clinicians' PTRF was expected. No specific hypotheses were set forth for the LPF scales, although the use of complex dimensions could be expected to limit inter-rater reliability. Convergence of the 25 traits across methodologies (i.e., self-report and clinician-report) was also evaluated. As established in previous studies (e.g., Klonsky, Oltmanns & Turkheimer, 2003; Ready & Clark,

2002), moderate effect sizes should emerge and it was expected that Negative Affectivity and Antagonism would be rated less reliably than Disinhibition and Detachment.

In terms of validity, the self-reported and clinician-rated DSM-5 traits were examined in relation to the FFM using an existing and well-validated measure of personality, the NEO PI-R. Similar to Ashton et al.'s (2012) findings, DSM-5 Negative Affectivity should align with NEO PI-R Neuroticism, and DSM-5 Antagonism, Disinhibition, and Detachment should be most strongly related to NEO PI-R Agreeableness, Conscientiousness, and Extraversion, respectively. DSM-5 Psychoticism was not expected to relate to NEO Openness.

The relationship between self-reported and clinician-rated DSM-5 traits and DSM-IV PDs was also examined. As Hopwood et al. (2012) state, "The somewhat challenging shift from *DSM–IV* to *DSM-5* will be smoother to the extent that connections across the models are understood and articulated empirically" (p.425). Therefore, it is important that the DSM-5 traits relate as expected to DSM-IV PDs and that the traits hypothesized to define certain PDs are sufficiently comprehensive. To do this, we examined how well hypothesized and non-hypothesized traits explained DSM-IV PDs. In Hopwood et al.'s (2012) study evaluating the PID-5, the Work Group's hypothesized traits accounted for between 28% and 54% of the variance in DSM-IV PDs proposed for retention in DSM-5. Results in the current study were expected to be comparable to these results in terms of magnitude. Similarly, it was also expected that Narcissistic, Avoidant, and Obsessive-Compulsive PDs may be captured more effectively when including non-hypothesized traits.

To address the gap in the existing literature with regard to whether DSM-5 traits relate to important behavioral and psychological outcomes as expected, we examined relations between self-reported and clinician-rated traits and externalizing behavior, internalizing symptoms and

psychological distress, and life satisfaction. Based on previous research (Pryor, Miller, Hoffman, & Harding, 2009), traits associated with Disinhibition and Antagonism should be most strongly related to externalizing symptoms (e.g., substance misuse, criminality), and Negative Affectivity should also correlate with externalizing behavior, albeit to a lesser degree. DSM-5 Negative Affectivity should be most strongly related to internalizing symptoms and psychological distress (i.e., global distress, anxiety, depression, anger), followed by DSM-5 Detachment. With regard to life satisfaction, Hayes and Joseph (2003) found that three measures of subjective well being correlated most strongly with Big Five Neuroticism, followed by Extraversion and Conscientiousness. Specifically, the correlations with the Satisfaction with Life Scale (SWLS) were .54, .42, and .38, respectively. Therefore, it was expected that DSM-5 Negative Affectivity would be most strongly related to life satisfaction, followed by Detachment and Disinhibition.

Lastly, the validity of the proposed hybrid model (i.e., Criterion A – general severity of personality impairment; Criterion B – presence of pathological traits) was evaluated by testing the incremental validity of the LPF severity ratings and hypothesized clinician-rated traits against one another in the prediction of DSM-IV PDs. Although Hopwood et al.'s study demonstrated significant independent contributions for both severity and Criterion B traits, this study did not measure severity using the LPF scale. If PD severity and style are distinct and important in the assessment and conceptualization of PD, then both LPF ratings and clinician-rated traits should account for unique variance in DSM-IV PD constructs.

CHAPTER 3

METHOD

Participants

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 currently receiving inpatient treatment or experiencing psychotic symptoms were excluded.

An a priori power analysis was conducted using G*Power 3.1.3 to determine the sample size needed for the proposed study. In order to detect medium effects (i.e., .3) at an acceptable level of power (.80), a sample size ranging between 82 ($\alpha = .05$) and 122 ($\alpha = .01$) was proposed. Data from 110 participants were collected; one participant was removed from the sample due to low effort resulting in a final sample of 109 participants. Participant characteristics are reported in Table 1.

Procedures

Advertisements were posted in the University of Georgia Psychology Clinic as well as in local newspapers and area mental health treatment facilities. Interested participants contacted the laboratory via telephone and provided verbal consent prior to being administered a screening questionnaire. The questionnaire assessed relevant inclusionary and exclusionary criteria. Eligible participants were then scheduled for a 3-hr in-person assessment session.

Upon arrival to the lab, the study consent form was verbally reviewed with the participant. Following informed consent, a graduate student conducted a video-taped, semi-structured interview to assess DSM-IV PDs. Participants then completed several computerized assessments using MediaLab. Following completion of these assessments, participants were thanked for their time and effort and compensated $30.

Measures

PD interview measures. *Structured Clinical Interview for DSM–IV Axis II Personality Disorders.* (SCID-II; First, Gibbon, Spitzer, Williams, & Benjamin 1997). The SCID-II is a semi-structured interview that assesses the 10 DSM–IV PDs. Each PD criteria is scored using a 1 (i.e., absent), 2 (i.e., subclinical), or 3 (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. Primary ratings were completed by the interviewer (i.e., the primary investigator or 1 of 3 trained graduate students). For inter-rater reliability purposes, secondary ratings via videotaped interview were completed by one of the remaining raters who did not complete the primary ratings.

A double-entry intraclass correlation (i.e., ICC_{DE}) was computed for each participant to examine interrater reliability of SCID ratings. McCrae (2008) suggests that the double-entry ICC_{DE} is the most suitable measure of profile agreement for personality measures that include facet-level traits. The double-entry method, used to determine the $ICC_{DE,}$ takes into consideration both absolute and relative agreement of the ratings (rather than just the relative agreement like a Pearson r). For 6 of the 109 participants, secondary ratings were not completed due to technical difficulties. The ICC_{DE}s ranged from .79 (Schizotypal PD) to .92 (Avoidant and Borderline PDs),

with a median of .86. In order to minimize common method variance in analyses utilizing DSM-5 clinician traits ratings, secondary ratings were used to generate dimensional PD scores (i.e., summation of ratings across symptoms for each PD); however, for the six interviews that did not receive secondary ratings, the primary interviewer's ratings were used. Alpha coefficients for the dimensional PD scores ranged from .68 (Obsessive-Compulsive PD) to .84 (Antisocial PD) with a median of .74.

DSM-5 Criterion A measure. *Levels of Personality Functioning Scale* (LPF; APA, 2011; Appendix A). The LPF scale was developed by the DSM-5 Work Group as a model to characterize severity of personality impairment on four dimensions. Within the Self domain, the *identity* dimension measures the "experience of oneself as unique, with clear boundaries between self and others; stability of self-esteem and accuracy of self-appraisal; capacity for, and ability to regulate, a range of emotional experience." The *self-direction* dimension measures the "pursuit of coherent and meaningful short-term and life goals; utilization of constructive and prosocial internal standards of behavior; ability to self-reflect productively." Within the Interpersonal domain, the *empathy* dimension measures "comprehension and appreciation of others' experiences and motivations; tolerance of differing perspectives; understanding of the effects of own behavior on others" and the *intimacy* dimension measures "depth and duration of positive connections with others; desire and capacity for closeness; mutuality of regard reflected in interpersonal behavior." Each of these four dimensions is differentiated on five levels from 0 (healthy functioning) to 4 (extreme impairment).

In the current study, clinician ratings along these four dimensions were completed by the interviewer (i.e., either the primary investigator or 1 of 3 trained raters) 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. Secondary ratings were completed using videotaped interview, and for 6 of the 109 participants, these ratings were not completed due to technical difficulties.

DSM-5 Criterion B measures. *DSM-5 Clinicians' Personality Trait Rating Form* (DSM-5 Clinicians' PTRF; APA, 2011; Appendix B). This rating form was developed to assess the DSM-5 proposed personality trait model. It is a single-item assessment of each of the 25 proposed traits subsumed by five trait domains: Negative Affectivity, Detachment, Antagonism, Disinhibition, and Psychoticism. Clinicians provide 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., Antagonism = *manipulativeness* + *deceitfulness* + *grandiosity* + *attention seeking* + *callousness* + *hostility*). The ratings were completed by the interviewer (i.e., either the primary investigator or 1 of 3 study approved graduate students) following administration of the SCID-II. Rater training consisted of watching a videotaped SCID-II interview, rating the 25 traits independently, and discussion of each trait rating and discrepancies. For 6 of the 109 participants, secondary ratings were not completed due to technical difficulties. In the current study, alpha coefficients for the Clinicians' PTRF domains were generated using the primary interviewer's ratings only. Coefficients were 76, .84, .85, .82, and .89 for Negative Affectivity, Detachment, Antagonism, Disinhibition, and Psychoticism, respectively.

Personality Inventory for DSM-5 (PID-5; Krueger et al., 2012). The PID-5 is a 220-item self-report measure designed to assess the 25 personality traits as delineated in the DSM-5 personality disorder trait model. In the current study, alpha coefficients ranged from .78 (submissiveness) to .95 (depressivity, eccentricity), with a median of .87. Five domain scores

were computed by summation of 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). In the current study, alpha coefficients for the domains were .96, .96, .95, .91, and .96 for Negative Affectivity, Detachment, Antagonism, Disinhibition, and Psychoticism, respectively.

Normal personality measure. *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. Alpha coefficients for the domains ranged from .89 (Openness) to .95 (Neuroticism). For the facets, alphas ranged from .58 (tender mindedness) to .90 (trust), with a median of .81.

Externalizing behavior measures. *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, antisocial behavior, and intimate partner violence. In the current study, 109 participants completed the CAB. All variables were normally distributed. 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; $\alpha = .77$; $m = 2.31$, $sd = 2.16$). Finally, a lifetime intimate partner violence count was created using this same approach (6 items; e.g., slapped partner; $\alpha = .85$; $m = 1.39$; $sd = 1.86$). In previous studies, CAB scales have demonstrated significant relations with expected constructs (e.g., psychopathy; Miller et al., 2010; Miller & Lynam, 2003).

Alcohol Use Disorders Identification Test (AUDIT; Saunders, Aasland, Babor, de la Fuente, & Grant, 1993). The AUDIT is a 10-item self-report measure that assesses the following three domains: Hazardous Alcohol Use (i.e., quantity and frequency of drinking), Symptoms of Alcohol Use Disorders (i.e., impaired control, increased salience, and morning drinking), and Harmful Alcohol Use (i.e., blackouts, injuries, guilt, and concern from others). Items are scored on a 0 to 4 scale with higher scores indicative of more alcohol related problems and dependence. 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). Scores between 8-15 represent a medium level of alcohol problems (Miller, Zweben, DiClemente, & Rychtarik, 1992).

Internalizing symptoms, psychological distress, and life satisfaction. *Patient-Reported Outcomes Measurement Information System – Anger, Anxiety, Depression - short forms* (Pilkonis, Choi, Reise, Stover, Riley, & Cella, 2011; PROMIS-Ang; PROMIS-Anx; PROMIS-Dep*).* Each of these three measures is a short version of their original counterparts. These brief self-report questionnaires (i.e., 8 items for Anger and Depression scales; 7 items for the Anxiety scale) were designed to measure emotional distress and assess the experience of a particular emotion over the past 7 days. A sample item on the Anger scale includes "In the past 7 days, I made myself angry about something just by thinking about it." All items are rated on a scale from 1 (Never) to 5 (Always). In the current study, 109 participants completed these measures, all variables were normally distributed, and alpha coefficients for Anger, Anxiety, and Depression were .92, .94, and .97, respectively. Scores on the Anger scale ranged from 8-38 with a mean of 19.85 (sd = 6.97), which corresponds with a T-score of 55. Scores on the Anxiety scale ranged from 7-35 with a mean of 22.15 (sd = 6.50), which corresponds with a T-score of

60. Scores on the Depression scale ranged from 8-40 with a mean of 22.20 (sd = 9.17), which corresponds to a T-score of 60.

*Brief Symptom Inventory (*BSI; Derogatis, 1993*).* The BSI is a 53-item self-report inventory designed to assess psychiatric symptoms and is based on the Symptom Checklist-90. It provides scores on nine Symptom Scales (i.e., Somatization, Obsessive-Compulsive, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation, and Psychoticism). In addition, three Global Indices can be scored: Global Severity Index, Positive Symptom Distress Index, and Positive Symptom Total. In the current study, 106 participants completed the BSI, and only the Global Severity Index was examined (GSI; $\alpha = .97$), which is computed by generating an average of all 53 items. The GSI was normally distributed and scores ranged from 0-3.08, with a mean of 1.06 (sd = .76). This is slightly lower than the generated outpatient norms (m =1.32; sd = .72) reported by Derogatis and Melisarotos (1983); however GSI scores in the current study are substantially higher than reported norms for non-clinical adult samples (i.e., .25 and .36 for males and females, respectively; Derogatis & Melisarotos, 1983).

Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985). The SWLS is a 5-item self-report measure designed to assess an individual's global satisfaction with life. Each item is scored on a 1 to 7 scale, with higher scores reflective of greater life satisfaction. In the current study, 106 participants completed the SWLS ($\alpha = .92$). Scores on the SWLS were normally distributed, and ranged from 5-35, with a mean of 17.22 (sd = 8.57). Means in the current study are substantially lower than those reported in non-clinical samples (e.g., 23.5; Diener et al., 1985).

CHAPTER 4

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 reliability for each of the domains and facets was evaluated using the aforementioned double-entry method. For the facet ratings, the ICC_{DE}s ranged from .12 (Perseveration) to .83 (Impulsivity) with a median of .55. For the single-item domain ratings, ICC_{DE}s ranged from .50 (Negative Affectivity) to .82 (Disinhibition). Domain inter-rater reliability was also examined by generating the median ICC_{DE} for facets comprised by each domain; correlations ranged from .48 (Psychoticism) to .64 (Disinhibition). Results for single-item clinician ratings are presented in Table 2.

Inter-rater reliability of clinician ratings on the LPF scale was also examined. The ICC_{DE}s 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 primary interviewer were used in all subsequent analyses. The primary investigator provided 78 of these 109 primary 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, Pearson product moment correlations between pathological domains and facets from the PID-5 and Clinicians' PTRF were computed (Results presented in Tables 3 and 4). For the domains, convergent correlations all reached significance (i.e., $p<.01$) and 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 the respective PID-5 domain.

For the facets, all convergent correlations were significant and ranged from .32 (perseverance) to .68 (withdraw) 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. Convergent and discriminant validity can also be evaluated by examining whether each facet is most strongly related to its corresponding facet from the alternative measure and vice versa. 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 eight remaining facets manifested their largest correlation with another trait within the same domain (e.g., CR eccentricity – PID-5 unusual beliefs). The one exception was CR and PID-5 manipulativeness within the Antagonism domain, which correlated most strongly with facets from the Disinhibition domain (i.e., PID-5 irresponsibility and CR risk taking, respectively).

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 (Table 5).

For these and all subsequent analyses, CR domain scores were based on summation of facet ratings comprised by each domain (rather than the single-item domain ratings) in order to allow comparison with the PID-5 domain scores, which were also generated based on summation of self-report facet scores.

As expected, both CR and PID-5 Negative Affectivity were most strongly correlated with NEO Neuroticism (*r*s = .66 and .87, respectively). CR and PID-5 Detachment were most strongly negatively correlated with NEO Extraversion (*r*s = -.66 and -.72, respectively). CR and PID-5 Antagonism were most strongly negatively related to NEO Agreeableness (*r*s = -.55 and -.73, respectively), and CR and PID-5 Disinhibition were most strongly negatively correlated with NEO Conscientiousness (*r*s = -.47 and -.71, respectively). CR and PID-5 Psychoticism, however, did not manifest their largest correlations with FFM Openness (*r*s = -.03 and .07, respectively). Instead, PID-5 Psychoticism was most strongly correlated with NEO Neuroticism and was also negatively correlated with NEO Conscientiousness, Agreeableness, and Extraversion. CR Psychoticism was unrelated to the NEO domains.

DSM-5 traits and DSM-IV PDs. In order to test the usefulness of DSM-5 traits in explaining DSM-IV PD constructs, two sets of simultaneous multiple regression analyses were conducted. In the first, the DSM-IV PDs (based on secondary ratings using the SCID-II) were regressed on all 25 traits (separately for the CR and PID-5). In the second, the DSM-IV PDs were regressed only on the traits identified by the DSM-5 Work Group for use in the diagnosis of each PD. Adjusted R-squared values were generated given the differential number of predictors.

When regressing each PD type on all 25 traits (see Table 6), the 25 CR traits accounted for between 31% (Obsessive-Compulsive PD) and 72% (Antisocial PD) of the variance (mean adjusted R-squared = .51). When using just the hypothesized traits, CR traits accounted for between 32% (Avoidant PD) and 69% (Antisocial PD) of the variance in the DSM-IV PDs (mean adjusted R-squared = .45). The 25 PID-5 traits accounted for between 29% (Histrionic PD) and 55% (Borderline PD) of the variance in the DSM-IV PDs (mean adjusted R-squared = .42), whereas the hypothesized 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). Mean adjusted R-squared values were also calculated across the three DSM-IV clusters; in general, regardless of scoring methodology (self vs. clinician ratings; all 25 traits vs. hypothesized traits), the DSM-5 traits accounted for the least amount of variance in the Cluster C PDs.

DSM-5 traits and internalizing symptoms, psychological distress, and life satisfaction. First, each of the outcome variables was examined for normality and all variables were normally distributed. Simultaneous regression analyses were then conducted to examine DSM-5 traits in relation to internalizing symptoms and measures of psychological distress (i.e., GSI, PROMIS scales), as well as life satisfaction (i.e., SWLS). Results are presented in Table 7. In terms of predictive[1] validity, CR traits accounted for 57% of the variance in the GSI, 32% of the variance in the SWLS, and 23%, 37%, and 44% of the variance in the PROMIS Anger, Anxiety, and Depression scales, respectively; self-reported PID-5 traits accounted for greater variance across all outcome variables: 72% of the variance in the GSI, 47% of the variance in the SWLS, and 41%, 57%, and 63% of the variance in the PROMIS Anger, Anxiety, and Depression

[1] The use of the word "predictive" with regard to study results reflects statistical prediction (i.e., how much criterion variance is accounted for by DSM-5 traits), rather than longitudinal prediction.

scales, respectively. In general, similar patterns were manifested by the CR and PID-5 traits; Negative Affectivity emerged as the most consistent unique correlate of internalizing symptoms and psychological distress, in that both CR and PID-5 Negative Affectivity predicted GSI, as well as PROMIS Anger, Anxiety, and Depression. Subjective life satisfaction, on the other hand, appears to be a more complex construct in that it was uniquely predicted by each of the CR and PID-5 traits with the exception of Psychoticism. The only divergence across CR and PID-5 traits was that CR Detachment emerged as a unique predictor of GSI, Anxiety, and Depression, but PID-5 Detachment only significantly predicted Depression. PID-5 Psychoticism also emerged as a significant predictor of the GSI.

DSM-5 traits and externalizing behaviors. First, each of the outcome variables was examined for normality and all variables were normally distributed. Simultaneous regression analyses were then conducted to examine DSM-5 traits in relation to externalizing behavior (i.e., alcohol use, lifetime drug use, antisocial behavior, intimate partner violence) as assessed using the CAB and AUDIT (Table 8). CR traits accounted for 21%, 34%, and 29% of the variance in alcohol use, drug use, and antisocial behavior, respectively, but did not account for significant variance in intimate partner violence. PID-5 traits significantly accounted for 25% of the variance in drug use but did not account for significant variance in alcohol use, antisocial behavior or intimate partner violence. Again, a similar patter was manifested for CR and PID-5 traits, in that Disinhibition emerged as a consistent unique correlate of these externalizing outcomes; clinician-rated Detachment also emerged as a significant predictor of drug use.

Validity of the DSM-5 hybrid model. In order to examine the validity of the proposed hybrid model, two hierarchical multiple regression analyses were conducted. In the first model, each of the DSM-IV PDs was regressed on the four Criterion A LPF ratings at Step 1 and on the

Criterion B CR traits hypothesized to comprise each PD at Step 2. The incremental validity of LPF 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 (results presented in Table 9).

Results demonstrated that CR DSM-5 traits accounted for between 14% (Avoidant PD) and 50% (Antisocial PD) of significant 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);

CHAPTER 5

DISCUSSION

The goal of the current study was to evaluate the reliability and validity of measures developed to assess Criterion A and B in the DSM-5 proposed dimensional diagnostic system for personality disorders (PDs). Specifically, the current study examined the reliability and validity of 1) self-reported pathological traits as assessed by the Personality Inventory for DSM-5 (PID-5), 2) clinician-rated (CR) pathological personality traits as assessed by the Clinicians' Personality Trait Rating Form (Clinicians' PTRF), and 3) severity of personality impairment as assessed by the Levels of Personality Functioning scale (LPF). These components and corresponding measures have been developed by the DSM-5 Work Group in an attempt to address the well-documented limitations of the current DSM-IV diagnostic system for PDs. More specifically, a dimensional model of pathological personality traits, in addition to the two aforementioned measures to assess these traits, were constructed in light of a substantial body of research highlighting the limitations of the current categorical approach, such as high comorbidity, heterogeneity, and arbitrary diagnostic cutoff points for (e.g., Widiger, Livesley, & Clark, 2009). Although conceptually these components appear to address weaknesses in the DSM-IV model, the novelty of these measures is problematic in that only preliminary research exists which has explicitly examined the reliability and validity of these measures.

Reliability of the DSM-5 dimensional trait model

With regard to the pathological trait model, the self-report PID-5 measure demonstrated good internal consistency across all 25 facets and for each of the five domains. The median alpha coefficient for the facets in the current study (i.e., .87) is nearly identical to previously published studies examining the PID-5 in non-clinical samples (e.g., Hopwood, Thomas, Markon, Wright & Kueger, 2011: Mdn α = .86; Krueger, Derringer, Markon, Watson, & Skodol, 2012: Mdn α = .86). Although internal consistency of the facets of the Clinicians' PTRF cannot be examined, given that these traits are assessed using a single-item rating, internal consistency of the domains was computed and suggests good internal consistency (i.e., .76-.89); however, it is worth noting that these coefficients may be inflated due to the organization of the measure. Specifically, clinicians may be more likely to rate facets similarly when they are grouped under their respective domain. This is consistent with research finding that thematic grouping of items leads to higher levels of internal consistency relative to random grouping of items (Lam, Green, & Bordignon, 2002).

One unique aspect of the current DSM-5 proposal is the utilization of CR personality traits (vs. symptom criteria) in the assessment and diagnosis of PDs. For DSM-IV diagnoses, clinicians are directed to assess individual PD criteria, which tend to be hybrids of traits and more specific behaviors (e.g., Borderline PD "impulsivity in at least two areas that are potentially self-damaging (e.g., spending, sex, substance use, reckless driving, binge eating)"). However, minimal research has tested whether clinicians can adequately rate personality traits.

In the current study, inter-rater reliability of each of the single-item domain and facet ratings was examined. It was expected, based on Few et al's study (2010) of clinician ratings of normal personality traits, that DSM-5 Negative Affectivity would evince the lowest convergence across raters, whereas inter-rater reliability would be highest for DSM-5 Disinhibition. Results confirmed these findings. Furthermore, the median inter-reliability coefficient for the DSM-5 facets in the current study (i.e., .55) was nearly identical to the Few et al. study (i.e., .52). According to Cicchetti and Sparrow's (1981) guidelines for inter-rater agreement, coefficients between .40 and .59 are indicative of "fair" reliability. Notably, the coefficient from the current study falls within the high end of this range and is approaching .60, which Cicchetti and Sparrow identify as the cutoff for "good" inter-rater reliability.

Cicchetti and Sparrow identify the cutoff for poor inter-rater reliability as below .40, which was the case for 4 of 25 DSM-5 facets: *perseveration* (.12), *emotional lability* (.32), *eccentricity* (.37), and *rigid perfectionism* (.39). It is not entirely clear why these traits were more difficult to rate by the clinicians. With regard to perseveration, there are few SCID-II items that appear to assess manifestations of this trait. In terms of emotional lability, limited rater consensus may reflect a lack of clarity regarding the construct itself. Koenigsberg (2011) describes "affective instability" as a multi-dimensional construct that only partially overlaps with "affective lability," defined by the DSM IV-TR as "abnormal variability of affect with repeated, rapid, and abrupt shifts in affective expression" (American Psychological Association, 1994, p. 763). The description of emotional lability on the Clinicians' PTRF also mentions intensity of emotion, however, so it is possible that raters were focusing on different dimensions of emotional or affective instability when rating this trait. Furthermore, it is likely that clinicians considered participant responses to the SCID-II Borderline PD question "Do you have a lot of

sudden mood changes?" when rating this trait. Research has suggested that individuals cannot accurately self-report on affective instability (e.g., Trull, 2008), and therefore, poor clinician consensus could reflect poor self-reporting of this criterion.

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 Detachment and Disinhibition both evinced strong convergent correlations. The strongest convergent correlation, though, was found within the Negative Affectivity domain. Notably, previous studies that have found that convergent correlations are lower for FFM 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 doctoral students in clinical psychology that scored these traits on the basis of answers from a semi-structured Axis II interview, which may have resulted in participants being more likely to report symptoms consistent with internalizing difficulties. In addition, the SCID-II interview assesses 10 DSM-IV PDs, many of which include symptoms characteristic of Negative Affectivity. For example, DSM-5 Negative Affectivity traits are associated with 5 of 6 DSM-5 PD types, according to the Work Group proposal, and are also conceptually related to DSM-IV PDs not slated for DSM-5, such as Paranoid PD and Dependent PD, both of which were assessed in this study. Conversely, it is possible that convergence was lowest for Psychoticism because only 1 of 10 PDs assessed in the SCID-II tap

into traits associated with this domain (i.e., Schizotypal PD), whereas the other four domains comprise traits characteristic of multiple PDs.

Finally, reliability of the LPF scale was examined. Results demonstrated fair reliability across the four dimensions, but the median intra-class correlation (.48) was lower than for the single-item CR trait domains (.62). One possible explanation is simply the lack of familiarity with and novelty of the LPF scale. Pilkonis (2011) commented that the language of the LPF scale is derived primarily from object-relations and social-cognitive theories that may be less widely familiar to clinicians. For example, the following is the description for a rating of "3" on the *identity* dimension within the Self-functioning domain:

> "*A weak sense of autonomy/agency; experience of a lack of identity, or emptiness. Boundary definition is poor or rigid: may be over identification with others, overemphasis on independence from others, or vacillation between these*. "

Pilkonis further advocates for utilizing more broadly accepted, transparent, and explicit indicators of failures of adaptation in order to potentially improve reliability of clinician ratings. In general, results from the current study support the reliability of the Clinicians' PTRF and the PID-5 and provide some preliminary, albeit modest support for the inter-rater reliability of the LPF scale.

Validity of the DSM-5 dimensional trait model

First, the relationship between DSM-5 pathological personality traits and normal personality traits from a FFM perspective were examined. Four of the DSM-5 domains related as expected to domains from the NEO Personality Inventory-Revised (NEO PI-R). DSM-5 Negative Affectivity, Antagonism, Disinhibition, and Detachment were most strongly and negatively related to NEO PI-R Neuroticism, Agreeableness, Conscientiousness, and

Extraversion, respectively. Also consistent with expectations given the common method, self-reported NEO PI-R traits demonstrated stronger correlations with PID-5 rather than CR traits. Lastly, as hypothesized, the relationship between DSM-5 Psychoticism and NEO PI-R Openness was nonsignificant. This is consistent with Ashton et al's (2012) findings that facets of NEO Openness and PID-5 Psychoticism loaded on different factors and is in line with a body of work demonstrating weak correlations between FFM Openness and pathological personality constructs (Saulsman & Page, 2004). A confirmatory factor analysis conducted by Watson, Clark, and Chmielewski (2008) also 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. However, Widiger (2011) argues that FFM Openness does comprise more extreme maladaptive variants of trait Openness (i.e., oddity) but that it is not well represented in certain FFM measures, such as the 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). Widiger also notes that Watson et al.'s findings may reflect an over-representation of the construct, which can lead to the emergence of distinct factors using factor analytic methodology. Thus, it is unclear whether the lack of a relationship between FFM Openness and DSM-5 Psychoticism in the current study is an indicator of distinct constructs or of limitations of the NEO conceptualization of trait Openness.

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 Work Group and whether the traits

hypothesized are comprehensive in their coverage of PDs. Results demonstrated that hypothesized CR and PID-5 pathological traits explained substantial variance in their respective DSM-IV PDs. The magnitude of variance accounted for by PID-5 traits (i.e., mean adjusted R^2=.45) was very similar to findings from Hopwood et al.'s study using the PID-5 (2012; mean R^2 = .43). The magnitude of variance accounted for by CR traits was somewhat higher (i.e., mean adjusted R^2=.51), but this likely reflects the role of common method variance. Hypotheses regarding the usefulness of non-hypothesized traits in explaining variance in Avoidant, Obsessive-Compulsive, and Narcissistic PDs were somewhat supported, although the pattern of findings was only consistent across CR and PID-5 traits for Avoidant PD. Interestingly, the 25 traits also accounted for additional variance in PDs other than those identified by Hopwood et al. (e.g., all 25 CR traits accounted for 13% more variance in Schizotypal PD than hypothesized traits). These findings suggest that traits critical to the assessment and conceptualization of PDs may have been omitted by the Work Group and more empirical research is needed to elucidate a comprehensive trait profile for each the DSM-5 PD types. Another noteworthy finding was that CR traits accounted for greater variance in Cluster B PDs relative to self-reported traits. Although it could be argued that method variance inflated the relations between CR traits and SCID-II PDs, the fact that this magnitude difference was not present for CR and PID-5 Cluster A or Cluster C PDs suggests that clinician ratings of externalizing personality pathology may have greater utility than self-report ratings. 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, and most consistently for Cluster B PDs (Miller, Pilkonis, & Clifton, 2005).

To further validate the DSM-5 pathological trait model, DSM-5 traits were examined in relation to relevant behavioral and psychological outcomes including externalizing behaviors,

internalizing symptoms and psychological distress, and life satisfaction. In general, the pattern of findings was similar across CR and PID-5 traits. Consistent with hypotheses, both CR and PID-5 Negative Affectivity were most strongly related to internalizing symptoms and psychological distress, and Disinhibition was most strongly related to externalizing pathology. Furthermore, Negative Affectivity, Detachment, and Disinhibition were most strongly negatively related to life satisfaction, which was hypothesized based on previous findings examining the Satisfaction with Life Scale and normal personality traits (Hayes & Joseph, 2003). Inconsistent with hypotheses, 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), which conflicts with previous research (e.g., Miller, Lynam, and Jones, 2008). In fact, Miller et al. found that NEO PI-R Agreeableness was a more robust predictor of externalizing behavior than NEO PI-R Conscientiousness. One potential explanation for this finding is that certain NEO PI-R Agreeableness facets most strongly linked to externalizing outcomes (i.e., *trust, straightforwardness, altruism, and compliance*) may not be well represented by DSM-5 Antagonism. For example, it appears that DSM-5 *deceitfulness* would relate to NEO *trust* and *straightforwardness* but NEO *compliance* and *altruism* do not appear to have as explicitly obvious counterparts in the DSM-5 model. Future empirical examination of facet level relations between the DSM-5 and FFM traits is necessary, however, to support this explanation.

Validity of the hybrid model

A criticism of the DSM-IV Axis II categorical model is the lack of a separate and explicit assessment of severity of personality impairment, which resulted in the DSM-5 Work Group's development of the LPF scale. In the current study, clinician LPF ratings accounted for

significant variance in 8 of 10 DSM-IV PDs. Importantly, however, they did not account for incremental variance in any of the PDs above and beyond the CR DSM-5 traits proposed to relate to each PD. This conflicts with Hopwood et al.'s (2012) finding that a general PD severity dimension provided additional information about DSM-IV PDs above and beyond the PID-5 traits. This discrepancy could reflect variance in methods in that analyses in the current study were based on clinician ratings of personality traits, LPF dimensions, and SCID-II PDs, whereas Hopwood's study was based on self-reported traits and PDs and a composite impairment rating generated from the self-report Personality Disorder Questionnaire-4. Therefore, the latter study did not explicitly examine the utility of impairment ratings using the proposed DSM-5 LPF scale. Another potential explanation worth consideration, however, is that severity of personality impairment is not distinctly different from pathological personality traits. Closer examination of PID-5 items highlights the potential difficulty in disentangling pathological traits from severity of personality impairment. For example, strongly endorsing the item from the *callousness* subscale "Being rude and unfriendly is just who I am," likely suggests severe impairment in interpersonal functioning. Additional research is needed to replicate findings from the current study and to further examine whether the absence of a unique contribution to DSM-IV PDs 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

Several strengths of the current study deserve mention. This is the first study to date that has examined CR DSM-5 traits. Existing studies have provided support for the DSM-5 trait model but have only examined self-reported traits using the PID-5 in non-clinical samples (e.g., Hopwood et al., 2012). Although the latter research is a useful first step in demonstrating the

reliability and validity of the DSM-5 trait model, it is more likely that clinician ratings will be used for diagnostic purposes given the need for efficiency in clinical settings, thus highlighting the importance of these data. Along these lines, the current study also utilized a clinical sample, which strengthens the ecological validity of these data and allows for more definitive conclusions regarding the use of the Clinicians' PTRF in clinical settings. A critical step in evaluating the validity of the DSM-5 model is testing whether the traits relate to behavioral and psychological outcomes in a manner consistent with the nomological network. Therefore, an additional strength of the current study was the examination of DSM-5 traits in relation to behavioral and psychological outcomes (e.g., externalizing behavior, internalizing symptoms). Lastly, this is the first study that has evaluated the LPF scale in conjunction with the pathological trait model, which enables a test of the relative contribution of each of these components in the explanation of PDs and provides information regarding the importance of a distinct assessment of severity of personality impairment in PD diagnosis.

Although there were several methodological strengths to this study, a few limitations are worthy of mention. First and foremost, the influence of Axis I pathology on reliability and validity of the pathological trait model and the LPF scale cannot be explicitly tested given the lack of a diagnostic interview assessing Axis I disorders; however, we could extrapolate, based on Krueger et al.'s (2011) explication of a metastructure of Axis I and Axis II psychopathology, that the presence and range of personality pathology in the current study indicates the presence of a range of Axis I pathology in the current sample. Furthermore, mean scores on the PROMIS Anxiety and Depression scales suggest levels of internalizing symptoms between .5-1 standard deviation higher than in the normal population. Similarly, scores on the Global Severity Index, which encompasses a range of items associated with Axis I pathology, were higher than in the

normal population. Additionally, mean AUDIT total scores were indicative of medium levels of alcohol problems and there was a substantial range of drug use reported by participants. These findings together are suggestive of a diverse range of Axis I pathology in the current study sample.

Another limitation of the current study is that interviewers received minimal training regarding both SCID-II and DSM-5 trait ratings. Each rater was given the SCID-II training manual, the clinician trait rating form (which includes descriptions of the DSM-5 traits), and then rated one videotaped interview followed by discussion of discrepancies with the primary investigator. It is possible that inter-rater reliability and convergent validity may have improved had more comprehensive training been implemented into the protocol. However, this could also be viewed as a strength of this study given that reliability was adequate despite minimal training and varying familiarity with personality traits and disorders. One could argue that these results, in regard to inter-rater reliability and convergent validity, are indicative of the lower-bounds of these statistics. That is, with more extensive training, one might be able to improve inter-rater reliability and convergent validity quite substantially. In addition, the limited training prior to implementation is also, unfortunately, likely to be consistent with how these instruments are often used. Overall, the implications of this for clinical settings are substantial; if minimal training time is needed to in order to reliably rate pathological traits and thus DSM-5 PDs, then the Clinicians' PTRF may be the most desirable and practical assessment for clinicians relative to self-report measures, such as the PID-5.

Although training time may be minimal, the amount and content of patient exposure time that is needed in order to provide the most reliable and valid ratings of pathological personality traits is unclear. In the current study, ratings of traits and impairment followed approximately

one hour of patient assessment, which involved a semi-structured PD interview. In clinical settings, PD interviews are not typically a standard of care. Therefore, future studies should examine whether pathological personality traits can be reliably rated following assessments that are less personality focused (e.g., SCID-I) and with less patient exposure time.

Finally, to maximize internal validity in the current study, it would have been most effective to create and utilize an interview explicitly aimed at the assessment of DSM-5 traits; instead, however, traits were rated based on a DSM-IV PD interview and thus, may be a conservative test of DSM-5 traits with regard to reliability and validity.

Conclusions

In conclusion, the results of the current study provide initial support for the reliability and validity of the DSM-5 dimensional trait model. The Clinicians' PTRF can be used to rate patients with reasonable reliability following only minimal training and provides personality data convergent with a self-report measure of DSM-5 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 PID-5 also converged with the NEO PI-R, and relevant behavioral and psychological outcomes as expected. Furthermore, hypothesized CR and PID-5 traits provided adequate coverage of DSM-IV PDs, albeit potentially less comprehensively for certain PDs (e.g., Avoidant PD). Lastly, the current study provides minimal support for the reliability of the LPF scale, and also suggests that a distinct severity of personality impairment measure may have limited utility, in that it did not provide incremental information beyond DSM-5 traits in the explanation of PD constructs.

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Table 1. Participant characteristics

	%/Mean (Standard Deviation; Range)
Sex	71% Female; 29%Male
Age (years)	35.93 (12.65; 18-59)
Race	White: 90%; African American: 6%; Asian: 3%; Mixed Race: 1%;
Hispanic Ethnicity	5%
Education (years)	14.51 (2.59; 8-22)
Marital Status	44% Never Married; 19% Married; 19% Divorced; 13% Living Together; 4% Separated; 1% Widowed
Employment Status	14% Full Time; 25% Part Time; 16% Retired or Disabled; 49% Unemployed;
Student Status	23% Full Time; 9% Part Time; 68% Non-Student
Income	<$10k: 38%; $10k-$19,999: 21.1%; $20k-$29,999: 7.3%; $30k-$39,999: 7.3%; $40k-$49,999: 3.7%; $50k-$59,999: 6.4%; $60k-$69,999: 1.8%; $70k-$79,999: 2.8%; $80k +: 12%

Table 2. Inter-rater reliability of clinician-rated DSM-5 traits

	ICC_{DE}
DSM-5 Domains	
Negative Affectivity	0.50
Detachment	0.61
Antagonism	0.62
Disinhibition	0.82
Psychoticism	0.58
DSM-5 Facets	
Emotional Lability	0.32
Anxiousness	0.42
Separation Insecurity	0.53
Perseveration	0.12
Submissiveness	0.60
Hostility	0.61
Depressivity	0.55
Suspiciousness	0.55
Restricted Affectivity	0.53
Withdrawal	0.61
Anhedonia	0.73
Intimacy Avoidance	0.49
Manipulativeness	0.65
Deceitfulness	0.71
Grandiosity	0.48
Attention Seeking	0.53
Callousness	0.54
Irresponsibility	0.64
Impulsivity	0.83
Distractibility	0.60
Risk Taking	0.72
Rigid Perfectionism	0.39
Unusual Beliefs	0.70
Eccentricity	0.37
Cognitive Dysregulation	0.48

Table 3. Correlations between DSM-5 clinician-rated and self-reported personality domains

	PID-5 Self-Reported Traits					
Clinician-Rated Traits	Negative Affectivity	Detachment	Antagonism	Disinhibition	Psychoticism	**Median divergent *r***
Negative Affectivity	**.68***	.52*	.38*	.26*	.40*	**.39**
Detachment	.36*	**.66***	.15	.11	.36*	**.25**
Antagonism	.25*	.10	**.53***	.31*	.17	**.21**
Disinhibition	.37*	.25*	.44*	**.63***	.38*	**.38**
Psychoticism	.22	.19	.20	.22	**.50***	**.21**
Median divergent *r*	**.31**	**.22**	**.29**	**.24**	**.37**	

Note: *=p<.01; Bolded values along the diagonal reflect convergent correlations

Table 4. Correlations between clinician-rated and self-reported DSM-5 personality facets

	PID-5 Self-Reported Traits																								
CR	EMO	ANX	INS	PER	SUB	HOS	DEP	SUS	RAF	WD	ANH	INT	MAN	DEC	GRA	ATT	CAL	IRR	IMP	DIS	RSK	RIG	UB	ECC	CPD
EMO	**.55**	.26	.40	.32	.12	.38	.41	.36	-.18	.16	.27	.05	.30	.23	.17	.22	.23	.38	.41	.32	.20	.14	.30	.24	.33
ANX	.32	**.47**	.29	.39	.24	.25	.43	.39	.28	.39	.38	.17	-.03	.13	.15	-.19	.16	.21	.02	.36	-.06	.29	.30	.35	.46
INS	.49	.35	**.60**	.44	.29	.35	.44	.38	-.04	.19	.32	.08	.19	.28	.13	.22	.18	.41	.41	.42	.21	.26	.32	.33	.41
PER	.26	.29	.21	**.32**	.25	.30	.22	.31	.12	.18	.22	-.03	-.07	.06	.13	.01	.00	.08	.03	.26	.02	.29	.20	.17	.19
SUB	.21	.27	.30	.19	**.40**	-.01	.38	.28	.18	.29	.39	.17	-.07	.11	-.03	-.21	-.04	.13	.04	.21	-.10	.17	.23	.24	.31
HOS	.32	.21	.29	.35	-.01	**.62**	.32	.38	-.02	.16	.28	.06	.33	.29	.23	.31	.37	.40	.38	.32	.25	.23	.22	.17	.18
DEP	.48	.45	.46	.30	.29	.30	**.62**	.40	.13	.43	.62	.35	.11	.34	.18	.12	.19	.32	.24	.46	.11	.19	.25	.28	.39
SUS	.24	.31	.24	.26	.03	.45	.32	**.67**	.10	.37	.33	.19	.26	.33	.31	.07	.34	.19	.22	.26	.12	.26	.34	.33	.34
RAF	-.14	.12	-.20	.03	-.03	.12	.11	.16	**.36**	.42	.31	.12	.03	.10	.07	-.17	.11	.12	.01	.14	.00	.07	.02	.14	.12
WD	.14	.41	.14	.23	.27	.20	.45	.38	.44	**.68**	.58	.25	.02	.22	.15	-.29	.19	.20	.03	.31	-.02	.24	.23	.37	.38
ANH	.23	.43	.22	.13	.19	.25	.54	.38	.28	.54	**.66**	.31	.11	.21	.14	-.14	.08	.18	.12	.28	.00	.19	.17	.27	.39
INT	.01	.31	.02	.05	.14	.15	.45	.36	.28	.60	.54	.39	-.06	.13	.02	-.30	.11	.07	-.08	.13	-.21	.11	.10	.15	.19
MAN	.22	.03	.21	.22	.00	.31	.08	.23	.02	.03	.00	.04	.41	.32	.22	.37	.34	.44	.42	.24	.36	.16	.22	.23	.23
DEC	.30	.15	.25	.25	.11	.35	.18	.31	.03	.12	.10	.14	.40	**.43**	.22	.36	.40	.47	.39	.26	.27	.23	.31	.26	.25
GRA	.01	.04	.01	.11	-.02	.28	.00	.15	.04	-.03	-.05	-.03	.40	.24	.36	.33	.25	.15	.25	.09	.33	.08	.12	.15	.01
ATT	.21	-.09	.23	.04	.02	.15	-.09	.02	-.23	-.22	-.21	-.05	.21	.09	.16	**.52**	.04	.20	.34	.09	.31	.05	.15	.09	-.01
CAL	.07	.07	.03	.11	.02	.47	.10	.31	.24	.18	.09	.05	.51	.40	.42	.23	**.53**	.31	.36	.16	.29	.14	.23	.27	.26
IRR	.25	.07	.32	.32	.01	.33	.27	.33	.09	.15	.21	.19	.29	.36	.23	.36	.41	**.61**	.49	.40	.33	.05	.29	.23	.25
IMP	.34	.13	.36	.28	.08	.34	.32	.23	-.01	.08	.22	.12	.35	.31	.15	.44	.35	.53	**.64**	.37	.50	.04	.29	.30	.31
DIS	.28	.12	.31	.26	.03	.29	.28	.24	.14	.13	.18	.09	.04	.14	.22	.14	.23	.41	.39	**.48**	.29	.03	.31	.30	.36
RSK	.31	.22	.37	.28	.16	.35	.35	.35	.13	.15	.24	.09	.42	.34	.25	.39	.33	.50	.68	.33	.55	.12	.42	.38	.40
RIG	.15	.04	-.08	.18	.08	.03	-.02	.11	-.14	.09	.11	.04	-.16	-.13	.04	-.22	-.11	-.20	-.25	-.02	-.25	**.39**	-.10	-.06	-.06
UB	.25	-.03	.17	.23	-.15	.14	.14	.33	.01	.12	.10	.20	.18	.25	.24	.18	.17	.21	.26	.13	.27	.19	**.60**	.37	.35
ECC	.13	.03	.05	.10	-.06	.04	.19	.22	-.04	.03	.13	.10	-.08	.06	.02	.05	-.03	.08	.09	.12	.18	.06	.43	.35	.26
CPD	.24	.05	.16	.20	-.03	.12	.20	.30	-.02	.09	.12	.12	.06	.21	.11	.11	.13	.21	.24	.24	.25	.15	.57	.46	.45

Note: All correlations >|.24| are significant at p<.01; **Bolded Correlations** = convergent correlation is strongest within that row; Underlined Correlations = convergent correlation is strongest within that column; CR = Clinician Rated; EMO=Emotional Lability; ANX = Anxiousness; INS = Separation Insecurity; PER = Perseveration; SUB = Submissiveness; HOS = Hostility; DEP = Depressivity; SUS = Suspiciousness; RAF = Restricted Affectivity; W = Withdrawal; ANH = Anhedonia; INT = Intimacy Avoidance; MAN = Manipulativeness; DEC = Deceitfulness; GRA = Grandiosity; ATT = Attention Seeking; CAL = Callousness; IRR = Irresponsibility; IMP = Impulsivity; DIS = Distractibility; RSK = Risk Taking; RIG = Rigid Perfectionism; UB = Unusual Beliefs and Experiences; ECC = Eccentricity; CPD = Cognitive and Perceptual Dysregulation;

Table 5. Correlations between DSM-5 and FFM personality domains

	Negative Affectivity		Detachment		Antagonism		Disinhibition		Psychoticism	
NEO Domains	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*
Openness	-.11	-.15	-.26*	-.32*	-.04	-.14	.05	.17	**-.03**	**.07**
Agreeableness	-.31*	-.40*	-.21	-.32*	**-.55***	**-.73***	-.31*	-.29*	-.19	-.30*
Conscientiousness	-.33*	-.47*	-.22	-.43*	-.08	-.36*	**-.47***	**-.71***	-.13	-.37*

Note: *=p<.01; CR = clinician-rated; PID = Personality Inventory for DSM-5 (self-report); Bolded values reflect convergent correlations

Table 6. Simultaneous regression of SCID-II PDs on DSM-5 traits

	CR-all	CR-count	PID-all	PID-count
Paranoid	0.52	0.45	0.48	0.49
Schizoid	0.46	0.44	0.48	0.39
Schizotypal	0.61	0.48	0.43	0.42
Mean	**0.53**	**0.46**	**0.46**	**0.43**
Antisocial	0.72	0.69	0.45	0.44
Borderline	0.66	0.65	0.55	0.49
Histrionic	0.44	0.45	0.29	0.24
Narcissistic	0.43	0.35	0.32	0.29
Mean	**0.56**	**0.54**	**0.40**	**0.37**
Avoidant	0.52	0.32	0.43	0.35
Dependent	0.39	0.36	0.38	0.34
Obsessive-Compulsive	0.31	0.33	0.35	0.27
Mean	**0.41**	**0.34**	**0.39**	**0.32**

Note: All values are Adjusted R^2 values and are significant; CR-all = all 25 clinician-rated traits; CR-count = hypothesized clinician-rated traits; PID-all = all 25 self-reported traits; PID-count = hypothesized self-reported traits

Table 7. Simultaneous regression of internalizing, psychological distress, and life satisfaction variables on DSM-5 traits

	GSI	**SWLS**	**ANX**	**DEP**	**ANG**
Clinicians' PTRF	β	β	β	β	β
Negative Affect	.51*	-.32*	.49*	.42*	.40*
Detachment	.32*	-.29*	.27*	.36*	.05
Antagonism	-.08	.31*	-.15	-.19	.14
Disinhibition	.18	-.32*	.07	.16	.03
Psychoticism	-.01	.09	-.09	-.02	-.12
R^2	**.57***	**.32***	**.37***	**.44***	**.23***

	GSI	**SWLS**	**ANX**	**DEP**	**ANG**
PID-5	β	β	β	β	β
Negative Affect	.58*	-.36*	.63*	.53*	.54*
Detachment	.16	-.43*	.08	.32*	-.14
Antagonism	-.10	.32*	-.10	-.08	.17
Disinhibition	.07	-.32*	-.02	.05	-.06
Psychoticism	.24*	.16	.19	.04	.18
R^2	**.72***	**.47***	**.57***	**.63***	**.41***

Note: *=p<.01; GSI = Global Severity Index (Brief Symptom Inventory); SWLS = Satisfaction with Life Scale; ANX = PROMIS Anxiety; DEP = PROMIS Depression; ANG = PROMIS Anger;

Table 8. Simultaneous regression of externalizing behaviors on DSM-5 traits

	Alcohol	**Drug**	**ASB**	**IPV**
Clinicians' PTRF	β	β	β	β
Negative Affectivity	.16	-.25	-.10	.19
Detachment	-.07	.29*	.11	-.10
Antagonism	.16	.04	.13	.13
Disinhibition	.31*	.51*	.44*	.12
Psychoticism	-.12	.17	.07	-.05
R^2	**.21***	**.34***	**.29***	**.10**

	Alcohol	**Drug**	**ASB**	**IPV**
PID-5	β	β	β	β
Negative Affectivity	.03	-.03	-.18	.01
Detachment	-.09	.15	.10	.03
Antagonism	.30	-.03	.21	.21
Disinhibition	.04	.33*	.09	-.03
Psychoticism	.13	.18	.20	.06
R^2	**.15***	**.25***	**.14**	**.06**

Note: *=p<.01*;* ASB=antisocial behavior; IPV=intimate partner violence

Table 9. Incremental validity of clinician trait and impairment ratings

	Impairment Adj. R^2	CR-Trait Counts Δ 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 Δ 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: * = $p<.01$; 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

APPENDIX A

LEVELS OF PERSONALITY FUNCTIONING SCALE

The following continuum uses each of the dimensions listed above to differentiate five levels of self-interpersonal functioning impairment, ranging from no impairment, i.e., healthy functioning (Level = 0) to extreme impairment (Level = 4).

Please indicate the level that most closely characterizes the patient's functioning in the self and interpersonal domain:

	SELF		INTERPERSONAL	
Level	**Identity**	**Self-Direction**	**Empathy**	**Intimacy**
0	-Ongoing awareness of a unique self; maintains role-appropriate boundaries. -Consistent and self-regulated positive self-esteem, with accurate self-appraisal. -Capable of experiencing, tolerating and regulating a full range of emotions.	-Sets and aspires to reasonable goals based on a realistic assessment of personal capacities. -Utilizes appropriate standards of behavior, attaining fulfillment in multiple realms. -Can reflect on, and make constructive meaning of, internal experience.	-Capable of accurately understanding others' experiences and motivations in most situations. -Comprehends and appreciates others' perspectives, even if disagreeing. -Is aware of the effect of own actions on others.	-Maintains multiple satisfying and enduring relationships in personal and community life. -Desires and engages in a number of caring, close and reciprocal relationships. -Strives for cooperation and mutual benefit and flexibly responds to a range of others' ideas, emotions and behaviors.

1	-Relatively intact sense of self, with some decrease in clarity of boundaries when strong emotions and mental distress are experienced. -Self-esteem diminished at times, with overly critical or somewhat distorted self-appraisal. -Strong emotions may be distressing, associated with a restriction in range of emotional experience.	-Excessively goal-directed, somewhat goal-inhibited, or conflicted about goals. -May have an unrealistic or socially inappropriate set of personal standards, limiting some aspects of fulfillment. -Able to reflect upon internal experiences, but may overemphasize a single (e.g., intellectual, emotional) type of self-knowledge.	-Somewhat compromised in ability to appreciate and understand others' experiences; may tend to see others as having unreasonable expectations or a wish for control. -Although capable of considering and understanding different perspectives, resists doing so. -Inconsistent is awareness of effect of own behavior on others.	-Able to establish enduring relationships in personal and community life, with some limitations on degree of depth and satisfaction. -Capacity and desire to form intimate and reciprocal relationships, but may be inhibited in meaningful expression and sometimes constrained if intense emotions or conflicts arise. -Cooperation may be inhibited by unrealistic standards; somewhat limited in ability to respect or respond to others' ideas, emotions and behaviors.
2	-Excessive dependence on others for identity definition, with compromised boundary delineation. -Vulnerable self-esteem controlled by exaggerated concern about external evaluation, with a wish for approval. Sense of incompleteness or inferiority, with compensatory inflated, or deflated, self-appraisal. -Emotional regulation depends on positive external appraisal. Threats to self-esteem may engender strong emotions such as rage or shame.	-Goals are more often a means of gaining external approval than self-generated, and thus may lack coherence and/or stability. -Personal standards may be unreasonably high (e.g., a need to be special or please others) or low (e.g., not consonant with prevailing social values). Fulfillment is compromised by a sense of lack of authenticity. -Impaired capacity to reflect upon internal experience.	-Hyper-attuned to the experience of others, but only with respect to perceived relevance to self. -Excessively self-referential; significantly compromised ability to appreciate and understand others' experiences and to consider alternative perspectives. -Generally unaware of or unconcerned about effect of own behavior on others, or unrealistic appraisal of own effect.	-Capacity and desire to form relationships in personal and community life, but connections may be largely superficial. -Intimate relationships are largely based on meeting self-regulatory and self-esteem needs, with an unrealistic expectation of being perfectly understood by others. -Tends not to view relationships in reciprocal terms, and cooperates predominantly for personal gain.

3	-A weak sense of autonomy/agency; experience of a lack of identity, or emptiness. Boundary definition is poor or rigid: may be over identification with others, overemphasis on independence from others, or vacillation between these. -Fragile self-esteem is easily influenced by events, and self-image lacks coherence. Self-appraisal is un-nuanced: self-loathing, self-aggrandizing, or an illogical, unrealistic combination. -Emotions may be rapidly shifting or a chronic, unwavering feeling of despair.	-Difficulty establishing and/or achieving personal goals. -Internal standards for behavior are unclear or contradictory. Life is experienced as meaningless or dangerous. -Significantly compromised ability to reflect upon and understand own mental processes.	-Ability to consider and understand the thoughts, feelings and behavior of other people is significantly limited; may discern very specific aspects of others' experience, particularly vulnerabilities and suffering. -Generally unable to consider alternative perspectives; highly threatened by differences of opinion or alternative viewpoints. -Confusion or unawareness of impact of own actions on others; often bewildered about peoples' thoughts and actions, with destructive motivations frequently misattributed to others	-Some desire to form relationships in community and personal life is present, but capacity for positive and enduring connection is significantly impaired. -Relationships are based on a strong belief in the absolute need for the intimate other(s), and/or expectations of abandonment or abuse. Feelings about intimate involvement with others alternate between fear/rejection and desperate desire for connection. -Little mutuality: others are conceptualized primarily in terms of how they affect the self (negatively or positively); cooperative efforts are often disrupted due to the perception of slights from others.

4	-Experience of a unique self and sense of agency/autonomy are virtually absent, or are organized around perceived external persecution. Boundaries with others are confused or lacking. -Weak or distorted self-image easily threatened by interactions with others; significant distortions and confusion around self-appraisal. -Emotions not congruent with context or internal experience. Hatred and aggression may be dominant affects, although they may be disavowed and attributed to others.	-Poor differentiation of thoughts from actions, so goal-setting ability is severely compromised, with unrealistic or incoherent goals. -Internal standards for behavior are virtually lacking. Genuine fulfillment is virtually inconceivable. -Profound inability to constructively reflect upon own experience. Personal motivations may be unrecognized and/or experienced as external to self.	-Pronounced inability to consider and understand others' experience and motivation. -Attention to others' perspectives virtually absent (attention is hypervigilant, focused on need-fulfillment and harm avoidance). -Social interactions can be confusing and disorienting.	-Desire for affiliation is limited because of profound disinterest or expectation of harm. Engagement with others is detached, disorganized or consistently negative. -Relationships are conceptualized almost exclusively in terms of their ability to provide comfort or inflict pain and suffering. -Social/interpersonal behavior is not reciprocal; rather, it seeks fulfillment of basic needs or escape from pa

APPENDIX B

DSM-5 CLINICIANS' PERSONALITY TRAIT RATING FORM

On the following pages are descriptive definitions of five broad personality *trait domains*, followed by definitions of specific *trait facets* that comprise each domain. All individuals' trait levels fall somewhere on these dimensions, ranging from 'not at all descriptive' to 'extremely descriptive.'

Some personality traits are easily summarized by a single label, whereas others are more complex. Therefore, we have defined each trait dimension, rather than simply providing labels. The extent to which a patient has each defined trait is rated using the scale shown below. The example shown is the second broad trait domain, *Detachment*. Please read the domain definition, think about the patient you are rating, and decide the extent to which the defining characteristics describe the patient.

Depending on the role of personality in patients' clinical pictures, you may rate their traits in one of three ways:

(1) just the five broad trait domains for a *personality overview*,

(2) all trait facets for a *comprehensive personality profile*, or

(3) the five trait domains, followed by the component trait facets comprising each of those domains for which the characteristics describe the patient '2 – Moderately' or '3 – Extremely' well.

Please rate patients' usual personality, what they are like most of the time.

EXAMPLE: Detachment Domain: withdrawal from other people and from social interactions.

0	1	2	3
Very little or not at all descriptive	Mildly descriptive	Moderately descriptive	Extremely descriptive

For this trait, rate the extent to which the patient shows withdrawal from other people and social interactions. Some typical manifestations (facets) include restricted affectivity, depressivity, suspiciousness, withdrawal, anhedonia, and intimacy avoidance; these more detailed and specific facet definitions should be reviewed in rating overall detachment, and rated individually to provide a *comprehensive personality profile* if time permits. If the definition describes the patient very little or not at all, or is just mildly descriptive, rate a 0 or a 1, respectively, whereas if the definition describes the patient moderately or extremely well, rate a 2 or 3, respectively.

Personality Overview

The five trait domains and the specific trait facets comprising the domains follow. Please review the more detailed and specific facet definitions in rating overall trait domains, and complete a *comprehensive personality profile* if time permits.

0	1	2	3
Very little or not at all descriptive	Mildly descriptive	Moderately descriptive	Extremely descriptive

_____ **Negative Affectivity** Experiences negative emotions frequently and intensely

Trait facets: Emotional lability, anxiousness, separation insecurity, perseveration, submissiveness, hostility, depressivity, suspiciousness, (lack of) restricted affectivity

_____ **Detachment** Withdrawal from other people and from social interactions.

Trait facets: Restricted affectivity, depressivity, suspiciousness, withdrawal, anhedonia, intimacy avoidance,

_____ **Antagonism** Engaging in behaviors that put the person at odds with other people.

Trait facets: Manipulativeness, deceitfulness, grandiosity, attention seeking, callousness, hostility

_____ **Disinhibition** Engaging in behaviors on impulse, without reflecting on potential future consequences.

NOTE: Compulsivity is the opposite of disinhibition and, if present, should be recorded at the facet level as rigid perfectionism in the absence of other disinhibition facets.

Trait facets: Irresponsibility, impulsivity, distractibility, risk taking, (lack of) rigid perfectionism

_____ **Psychoticism** Unusual and bizarre experiences

Trait facets: Unusual beliefs & experiences, eccentricity, cognitive & perceptual dysregulation

Comprehensive Personality Profile

The twenty-five specific trait facets comprising the five domains follow.

0	1	2	3
Very little or not at all descriptive	Mildly descriptive	Moderately descriptive	Extremely descriptive

Negative Affectivity: experiences negative emotions frequently and intensely
*NOTE: Restricted affectivity is listed under the Detachment heading, but the **absence** of this facet trait – i.e., a tendency to have **strong** reactions to emotionally arousing situations, should also be evaluated in rating the overall Negative Affectivity domain*

_____ **Emotional lability** Unstable emotional experiences and frequent mood changes; emotions that are easily aroused, intense, and/or out of proportion to events and circumstances.

_____ **Anxiousness** Intense feelings of nervousness, tenseness, or panic in reaction to diverse situations; worry about the negative effects of past unpleasant experiences and future negative possibilities; feeling fearful, apprehensive, or threatened by uncertainty; fears of falling apart, losing control, or embarrassment.

_____ **Separation insecurity** Fears of rejection by – and/or separation from – significant others, associated with fears of excessive dependency and complete loss of autonomy.

_____ **Perseveration** Persistence at tasks long after the behavior has ceased to be functional or effective; continuance of the same behavior despite repeated failures.

_____ **Submissiveness** Adaptation of one's behavior to the interests and desires of others

_____ **Hostility** Persistent or frequent angry feelings; anger or irritability in response to minor slights and insults; mean, nasty, or vengeful behavior.

_____ **Depressivity** Frequent feelings of being down, miserable, and/or hopeless; difficulty recovering from such moods; pessimism about the future; pervasive shame; feelings of inferior self worth; thoughts of suicide and suicidal behavior.

_____ **Suspiciousness** Expectations of -- and heightened sensitivity to -- signs of interpersonal ill-intent or harm; doubts about loyalty and fidelity of others; feelings of persecution

Detachment: withdrawal from other people and from social interactions.
NOTE: Because they are rated earlier, as part of Negative Affectivity, Depressivity and Suspiciousness are not listed again under the Detachment heading, but should be evaluated in rating the overall Detachment domain

_____ **Restricted affectivity** Little reaction to emotionally arousing situations; constricted emotional experience and expression; indifference or coldness.

_____ **Withdrawal** Preference for being alone to being with others; reticence in social situations; avoidance of social contacts and activity; lack of initiation of social contact.

_____ **Anhedonia** Lack of enjoyment from, engagement in, or energy for life's experiences; deficits in the capacity to feel pleasure or take interest in things.

_____ **Intimacy avoidance** Avoidance of close or romantic relationships, interpersonal attachments and sexual relationships

Antagonism: engaging in behaviors that put the person at odds with other people
NOTE: Because it is rated earlier, as part of Negative Affectivity, Hostility is not listed again under the Antagonism heading, but should be evaluated in rating the overall Antagonism domain

_____ **Manipulativeness**	Frequent use of subterfuge to influence or control others; use of seduction, charm, glibness, or ingratiation to achieve one's ends.
_____ **Deceitfulness**	Dishonesty and fraudulence; misrepresentation of self; embellishment or fabrication when relating events.
_____ **Grandiosity**	Feelings of entitlement, either overt or covert; self-centeredness; firmly holding to the belief that one is better than others; condescending toward others.
_____ **Attention seeking**	Excessive attempts to attract and be the focus of the attention of others; admiration seeking.
_____ **Callousness**	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.

Disinhibition: engaging in behaviors on impulse, without reflecting on potential future consequences.
NOTE: Compulsivity is the opposite of disinhibition and, if present, should be recorded at the facet level as rigid perfectionism in the absence of other disinhibition facets.

_____ **Irresponsibility**	Disregard for – and failure to honor – financial and other obligations or commitments; lack of respect for – and lack of follow through on – agreements and promises.
_____ I**mpulsivity**	Acting on the spur of the moment in response to immediate stimuli; acting on a momentary basis without a plan or consideration of outcomes; difficulty establishing and following plans; a sense of urgency and self-harming behavior under emotional distress
_____ **Distractibility**	Difficulty concentrating and focusing on tasks; attention is easily diverted by extraneous stimuli; difficulty maintaining goal-focused behavior.
_____ **Risk taking**	Engagement in dangerous, risky, and potentially self-damaging activities, unnecessarily and without regard to consequences; boredom proneness and thoughtless initiation of activities to counter boredom; lack of concern for one's limitations and denial of the reality of personal danger
_____ **(lack of) Rigid perfectionis**m	Rigid insistence on everything being flawless, perfect, without errors or faults, including one's own and others' performance; sacrificing of timeliness to ensure correctness in every detail; believing that there is only one right way to do things; difficulty changing ideas and/or viewpoint; preoccupation with details, organization, and order. *NOTE: Rigid Perfectionism reflects Compulsivity, which is the opposite of disinhibition and is therefore located in the disinhibition domain. If present, compulsivity should be recorded at the facet level as a higher rigid perfectionism score accompanied by lower scores on other disinhibition facets.*

Psychoticism: unusual and bizarre experiences

_____	**Unusual beliefs and experiences**	Thought content that is viewed by others as bizarre or idiosyncratic, unusual experiences of reality.
_____	**Eccentricity**	Odd, unusual, or bizarre behavior or appearance; saying unusual or inappropriate things.
_____	**Cognitive and Perceptual dysregulation**	Odd or unusual thought processes; vague, circumstantial, metaphorical, over-elaborate, or stereotyped thought or speech; odd experiences in various sensory modalities.