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Prediction of Daily Ratings of Psychosocial Functioning: Can Ratings of Personality Disorder Traits and Functioning be Distinguished?

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Abstract

Current categorical and dimensional conceptualizations of personality disorder (PD) typically confound pathological PD traits with distress and impairment (dysfunction). The current study examines whether dimensions of personality pathology and psychosocial dysfunction can be psychometrically distinguished. To that end, we collected self-report ratings of personality pathology and dysfunction at baseline, along with daily ratings of dysfunctional behavior over ten consecutive days. Correlations revealed substantial overlap between traits and dysfunction measured at baseline. However, follow-up hierarchical regressions revealed that baseline dysfunction ratings incrementally predicted daily dysfunction ratings after accounting for personality trait ratings, suggesting that traits and dysfunction are at least partially differentiable. However, the incremental effects were stronger for some dysfunction domains (i.e., Self-Mastery and Basic Functioning) than for others (Well-Being and Interpersonal), suggesting that maladaptive trait measures are more confounded with the latter types of impairment. These findings suggest that distinguishing maladaptive PD traits from functioning in PD classification systems likely is more difficult than would be expected, a finding that has important implications for the competing Section II and Section III conceptualizations of PD presented in DSM-5.

Keywords

Personality Disorder Traits; Psychosocial Functioning; Daily Functioning

Personality disorder (PD), as defined by the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; American Psychiatric Association [APA], 2013), represents a set of stable, longstanding patterns of affectivity, interpersonal functioning, cognition, and impulse control with onset by early adulthood. To be considered PD, these features must be inflexible and maladaptive and deviate markedly from cultural expectations. Importantly, this enduring pattern also must be associated with either “significant functional impairment or subjective distress” in order to be classified as disordered (p. 646, APA, 2013). Based on these criteria, significant deficits in functioning can be expected for individuals diagnosed with PD. Empirical evidence has supported the link between PD and dysfunction (e.g.,

Narud & Dahl, 2002; Seivewright, Tyrer & Johnson, 2004) and a wide variety of costs for PD sufferers, the healthcare system, and society in general (Smith & Benjamin, 2002).

Although widely adopted in the mental health community, the DSM definition of PD has been criticized for leading to high rates of comorbidity, heterogeneity within PDs, diagnostic unreliability, and lack of clinical utility (e.g., Clark, 2007). To address these problems, many have proposed to adopt a dimensional conceptualization and identify the personality traits underlying phenotypic manifestations of PD (see Widiger & Simonsen, 2005, for a review). Although dimensional models of PD, such as the Five Factor Model (FFM), the Schedule for Nonadaptive and Adaptive Personality—2nd Edition (SNAP-2; Clark, Simms, Wu, & Casillas, in press), the Dimensional Assessment of Personality Pathology-Basic Questionnaire (DAPP-BQ; Livesley & Jackson, 2009), and the Personality Inventory for DSM-5 (PID-5; Krueger, Derringer, Markon, Watson, & Skodol, 2012), offer several advantages to the DSM-5 Section II PD conceptualization, problems with the definition of dysfunction still exist. In particular, the criterion specifying “clinically significant distress or impairment in social, occupational, or other important areas of functioning” (p. 646) has been called vague, incomplete, and inadequate in providing sufficient detail regarding the specificity and severity of dysfunction required for a PD diagnosis (Livesley, 1998). For these same reasons, this definition has not been easily translated into efficient, reliable, and valid measures (Verheul et al., 2008), and not until recently have researchers studied the structure of dysfunction (Ro & Clark, 2009). As trait elevation alone is not sufficient for a PD diagnosis (Livesley & Jang, 2000), more research to better understand the nature of dysfunction and how it relates to established trait models is sorely needed. For this paper, the term dysfunction is more broadly defined to encompass both distress and impairment.

The DSM-5 PD workgroup recognized the need for a standard definition of PD-related dysfunction within our diagnostic system (Bender, Morey, & Skodol, 2011), which has been relegated to Section III of the manual. This proposal includes the requirement (i.e., Criterion A) for significant impairment in self and interpersonal functioning in order to diagnose PD. Criterion A is comprised of two domains with two facets each (i.e., Self: Identity and Self-direction; and Interpersonal: Empathy and Intimacy). Notably, these domains share a strong resemblance to certain features of common PD traits. For example, the Identity facet does not appear to differ much from Neuroticism. As Section III of DSM-5 is meant to stimulate additional research before being implemented into the classification system an important issue to resolve seems to involve how best to differentiate PD traits and dysfunction in clinical assessment.

Models of PD-related Dysfunction

Several models of PD-related dysfunction have emerged. Widiger, Costa, and McCrae (2002) proposed a method whereby FFM personality traits and secondary dysfunction relevant to each trait could be measured using the *DSM* Global Assessment of Functioning (GAF) scale to determine clinical significance of distress or impairment. Although useful, proponents of this method have recognized that the use of the GAF has limitations and that clinical significance cutoffs are arbitrary (e.g., Widiger & Presnall, 2013). Using the GAF to measure PD-related dysfunction is particularly problematic because it (a) is a single-item

measure, which is inherently unreliable (Nunnally, 1967), (b) is confounded with dysfunction from psychiatric symptoms other than personality pathology (Verheul et al., 2008), and (c) has not been widely studied in the literature as a specific measure of PD-related dysfunction. Other than the GAF, a number of multi-faceted measures of PD-related dysfunction have been offered in the literature, such as Verheul et al.'s (2008) Severity Indices of Personality Problems—118 (SIPP-118) and Parker et al.'s (2004) Measure of Disordered Personality and Functioning (MDPF). However, few studies have considered the relations among these different representations of PD-related dysfunction. Moreover, no consensus exists regarding the exact nature and number of dimensions needed to represent the full range of PD-related dysfunction.

Ro and Clark (2009) recently aimed to unify the various models and measures in the dysfunction literature. They administered several prominent measures of psychosocial dysfunction to 218 college students and 211 community residents. Factor analyses of these measures suggested a four-factor structure of functioning: (a) Well-Being (enjoyment of and satisfaction with self and life), (b) Basic Functioning (difficulty carrying out more basic life tasks), (c) Self-Mastery (problems with impulsivity and a lack of direction in life), and (d) Interpersonal and Social Relationships (difficulty getting along with others and maintaining relationships). Ro and Clark (2013) conducted a factor analysis of a reduced set of scales in the same sample and a confirmatory factor analysis in a sample of 181 psychiatric outpatients. They arrived at a three-factor solution (i.e., Low Well-Being, Poor Social/Interpersonal Functioning, Poor Basic Functioning). Both structures offer compelling ways to organize the dysfunction literature.

How Do Traits and Dysfunction Relate?

The literature shows strong links between personality traits and various facets of psychosocial dysfunction. Using data from the Collaborative Longitudinal PD Study (CLPS), Hopwood and colleagues (2009) found relatively specific relations between FFM traits and measures of psychosocial functioning aimed to assess social, work, and recreational functioning through multiple methods. Regressions controlling for the influence of other traits revealed that Neuroticism was positively correlated with dysfunction in all three domains, whereas Conscientiousness was negatively associated with work dysfunction, Agreeableness negatively predicted social dysfunction, Extraversion negatively predicted social and recreational dysfunction, and Openness negatively correlated with recreational dysfunction. As much of the research in this area has examined these relations using concurrent self-report, these findings were strengthened by use of prospective interviewer-reports of dysfunction.

Mullins-Sweatt and Widiger (2010) reported similar findings in a sample of patients in which hierarchical regressions revealed associations between Neuroticism and distress, Agreeableness/Extraversion and social dysfunction, and Conscientiousness and work dysfunction. These traits incrementally predicted their respective dysfunction domains above and beyond the other traits that yielded significant correlations. The authors discussed the growing interest in separating traits and dysfunction, as per Section III of DSM-5, and how there are conceptual and methodological difficulties in making such a distinction. They

proposed that the distinction between these constructs could be better understood within a hierarchical structure. Specifically, higher-order, broad traits could be assessed along with lower-order assessments of behaviors that can be distinguished as either adaptive or maladaptive.

Because the conceptual distinction between traits and dysfunction continues to be blurred, more work needs to be done to test the psychometric distinctiveness of these constructs. Among the factors contributing to the blurred line between these constructs is that most studies have measured both using only a single method, most commonly cross-sectional self-reports, which likely inflates all correlations due to shared method variance. To that end, a study comparing the relative predictive value of personality traits and dysfunction ratings with respect to conceptually matched maladaptive daily behaviors might provide one way of measuring the unique variance associated with each. Specifically, we would expect baseline dysfunction ratings to more strongly relate to daily behavioral ratings of dysfunction than would personality trait ratings. This type of work would advance the construct validation of personality and dysfunction and potentially give a better understanding of how to separate these constructs in DSM-5 Section III.

Current Study

Given the need for additional research to better understand the interrelations between dimensional models of PD and psychosocial functioning, our goals were to (a) examine the convergent and discriminant relations among prominent measures of personality pathology and dysfunction using Ro and Clark's (2009) structure of functioning as an organizing framework, and (b) study whether retrospectively rated (baseline) dysfunction ratings can be reliably distinguished from maladaptive personality trait ratings through an incremental validity study of daily behavioral ratings of dysfunction. To accomplish these goals, we assessed undergraduates multiple times, first using a baseline battery of personality and retrospectively rated dysfunction measures, and then again daily for ten days using a daily functioning questionnaire developed for this study. We had two primary *a priori* hypotheses:

1. Due to their conceptual similarity, we predicted that, at baseline, factors derived from Ro and Clark's (2009) structure will overlap substantially with personality trait ratings. Based on conceptual grounds and the literature reviewed, we expected Well-Being to relate most strongly to traits of negative and positive emotionality, Self-Mastery to relate most strongly to conscientiousness traits; and Interpersonal and Social Relationships to relate most strongly to traits of agreeableness and detachment. We had no *a priori* hypotheses regarding the relation between Basic Functioning and personality.
2. To disentangle shared method variance, we examined associations between traits and dysfunction across methods. We predicted that correlations between baseline and daily ratings of dysfunction would be stronger than correlations between maladaptive personality traits and daily ratings of dysfunction. Similarly, using hierarchical multiple regression, we expected that baseline ratings of dysfunction would incrementally predict daily dysfunction above and beyond trait ratings.

Method

Participants and Procedures

Baseline Ratings of Personality and Dysfunction—The initial sample included 333 undergraduate students at the University at Buffalo. Participants completed a battery of measures assessing personality, personality pathology, and dysfunction. All questionnaires were completed in the laboratory on computers in private computer carrels. The baseline battery included the a prominent measure of maladaptive personality traits (the SNAP-2; Clark et al, in press), as well as a broad range of impairment measures, including the SIPP-Short Form (SIPP-SF), Social Functioning Questionnaire (SFQ; Tyrer et al., 2005), World Health Organization Quality of Life—Brief Version (WHOQOL-BREF; WHOQOL Group, 1998), WHO Disability Assessment Schedule (WHODAS-II; WHO, 2000), Scales of Psychological Well-Being (PWB; Ryff, 1989), and the first administration of the Daily Functioning Questionnaire (DFQ), a measure developed for this study. Not all of Ro and Clark's (2009) dysfunction measures were used in this study for reasons of time and efficiency. Instead, a select number of strongly loading scales were prioritized for inclusion. At the end of the baseline session, participants were instructed about the prospective, online portion of the study and then completed the first day of the DFQ. Participants were compensated with course research credit. The Social and Behavioral Sciences Institutional Review Board at the University at Buffalo approved all procedures.

Daily Ratings of Dysfunction—Participants completed the DFQ everyday for ten consecutive days via the Internet. This time frame is consistent with previous literature studying similar constructs, such as interpersonal conflict (Bolger & Zuckerman, 1995), negative and positive life events (Langston, 1994), and impulsive behaviors (Wu & Clark, 2003). Participants were instructed to complete the DFQ alone, in a private area, at the end of each day, and to rate only the dysfunction experienced within the past 24 hours. The online survey was time-stamped so that participant adherence to these procedures could be assessed. Participants were notified that they would receive credit only for measures completed at the correct interval. Compensation was proportional to the number of DFQ ratings completed. To facilitate complete participation, a credit bonus was given to those who completed all ten DFQs at proper intervals.

Final Sample—Participants were excluded from analyses if (a) they omitted more than ten items in the baseline assessment, (b) T scores on the SNAP-2 Deviance and Back Deviance scales both were greater than or equal to 90 (which has been associated with random or haphazard responding [Clark et al., in press]), and/or (c) at least half of the required DFQs were completed with more than five missing values each day. Fifty-eight participants were removed based on these criteria. Chi-square analyses revealed that excluded participants did not differ significantly in age or ethnicity, but did differ in sex, $\chi^2(1, N = 333) = 5.1, p = .024$: Males ($n = 31$) were more likely to be excluded than females ($n = 27$). The final sample selected for analyses included 275 participants, of which 63% were female. The mean age was 19.3 ($SD = 3.0$), and participants were 57.1% Caucasian, 29.8% Asian, 6.9% African American, 3.6% Other/Multi-ethnic, and 2.6% American Indian.

Baseline Personality Pathology

SNAP-2—The SNAP-2 (Clark et al., in press) is a factor analytically derived, self-report instrument designed to assess trait dimensions relevant to PD. It includes 390 true-false items that form twelve trait scales assessing specific or primary traits (Mistrust, Manipulativeness, Aggression, Self-harm, Eccentric Perceptions, Dependency, Exhibitionism, Entitlement, Detachment, Impulsivity, Propriety, and Workaholism) and three broader temperament scales (Negative Temperament, Positive Temperament, and Disinhibition). SNAP-2 scores have been shown to be internally consistent across multiple sample types, have good retest reliabilities, and have shown good convergent and discriminant relations with related measures, including those of the three- and five-factor models of personality (see Clark et al., in press, for details).

Baseline Dysfunction

SIPP-SF—The SIPP-SF (Verheul et al., 2008) is a 60-item short version of the SIPP-118. The SIPP was designed to assess the core components of maladaptive personality functioning and structural personality changes in natural course or treatment. The SIPP-SF measures five factors (i.e., Self-Control, Identity Integration, Relational Capacities, Responsibility, Social Concordance). Items are rated from 1 (*least adaptive*) to 4 (*most adaptive*) such that higher scores are associated with higher levels of functioning. Ro & Clark (2009) reported acceptable alphas (i.e., .83–.89) across these subscales.

IIP-32—The IIP-32 is a 32-item version of the IIP. The original IIP was derived from interpersonal complaints reported by clinical patients. The IIP-32 was derived through factor analysis of responses from 250 psychotherapy clients (Barkham, Hardy, & Startup, 1996). They found an eight-factor solution, and the four highest loading items on each factor were retained to create scales: Domineering/Controlling (PA), Vindictive/Self-Centered (BC), Cold/Distant (DE), Socially Inhibited (FG), Nonassertive (HI), Overly Accommodating (JK), Self-Sacrificing (LM), and Intrusive/Needy (NO). Barkham and colleagues (1996) reported reliability and validity data for the scales, with alphas ranging from .71 to .89.

WHOQOL-BREF—The WHOQOL-BREF (WHOQOL Group, 1998) is a 26-item short version of the WHOQOL-100. It is comprised of four domains—Physical, Psychological, Social Relationships and Environment—assessing QOL. Items are rated on a five-point Likert scale, with lower scores corresponding with a lower QOL (1 = “Very poor” or “Very dissatisfied” to 5 = “An extreme amount” or “Very satisfied”). Ro and Clark (2009) reported generally acceptable alphas (i.e., .61–.82) for WHOQOL-BREF scale scores.

WHODAS-II—The WHODAS-II (WHODAS-II; World Health Organization, 2000) is a 36-item self-report measure assessing functioning in six domains (i.e., Communication, Mobility, Self-Care, Interpersonal, Work, and Participation in Society). Items are rated on a four-point Likert scale (1 = *None* to 4 = *Extreme/Cannot Do*). Scores can be computed into a single, global score, with higher scores indicating greater disability. Ro & Clark (2009) reported generally acceptable alphas (i.e., .68–.92) across the scales.

PWB-54—The PWB-54 (Ryff, 1989) is a 54-item short-form of the full 84-item version of the PWB. The PWB is a measure of six domains of psychological health and functioning (i.e., Self-Acceptance, Environmental Mastery, Positive Relations with Others, Purpose in Life, Personal Growth and Autonomy). Items are on a six-point Likert scale (1 = *Strongly Disagree* to 6 = *Strongly Agree*), with higher scores indicating higher levels of psychological well-being. Ryff and Keyes (1995) reported acceptable internal consistency for the scales of the full version. Ro & Clark (2009) reported acceptable alphas (i.e., .82–.89) for short-form scales.

Daily Dysfunction

The DFQ was developed for this study by writing items based on scale and construct definitions for the most prominent, highest loading markers on each of the four factors identified by Ro and Clark (2009). Graduate students trained on the definitions and meanings of the factors wrote items reflecting the full content of each construct, with an eye toward creating items that made sense within the context of daily dysfunction. For example, for Well-Being, items such as “Within the last 24 hours, I was able to enjoy my day” were written to assess an individual’s day-to-day enjoyment and satisfaction with oneself or one’s life. The initial item pool included 66 items (15–20 items per a priori factor) that were rated using a dichotomous scale (True/Mostly True vs. False/Mostly False). DFQ items were omitted from subsequent analyses if skewness > 5 or kurtosis > 30. A combined rational-empirical method was adopted to retain DFQ items that were the strongest and most unique markers of each baseline dysfunction factor. Approximately 15 items per dysfunction factor were selected for initial analyses based on their conceptual relatedness to their respective baseline dysfunction factors. Items were retained if they yielded correlations with their respective baseline factor scores of at least .20 and weaker relations with the other factor scores. This threshold was decreased to .15 for the interpersonal problems factor as only one item met these requirements. Using these procedures, between six and nine items were selected for each factor, for a total of 30 items retained for analyses. In the current study, alphas ranged from .68 to .87. The final DFQ measure appears in Appendix A.

Analyses and Results

Descriptive Statistics

Means, standard deviations, and Cronbach’s alphas for all analyzed scales are presented in Table 1. Alphas ranged from .68 (daily Interpersonal and Social Relationships) to .92 (SNAP Negative Temperament). Skewness scores ranged from –1.12 to 2.36 and kurtosis scores ranged from –.82 to 6.91. No scales exceeded established skewness and kurtosis thresholds (i.e., skewness > 2 and kurtosis > 7; West, Finch & Curran, 1995). Likewise, *Ms* and *SDs* for all scales are comparable to previous data with non-clinical samples (e.g., Ro & Clark, 2009; WHOQOL Group, 1998).

Relations Among Traits, Baseline Dysfunction, and Daily Dysfunction

To simplify analyses, factor scores were created to represent each of Ro and Clark’s (2009) factors of dysfunction. Scales were selected to represent each factor based on having the strongest primary loadings (| λ |.50|) with weaker cross-loadings (| λ |.30|) in Ro and Clark’s

(2009) analyses. To represent Well-Being, the PWB Self-Acceptance and WHOQOL-BREF Psychological scales were selected. For Self-Mastery, the SIPP-SF Responsibility and Self-Control scales were selected. For the Interpersonal and Social Relationships factor, the SIPP Social Concordance scale was selected and the IIP Dominance scale was selected in lieu of the MDPF scales as the MDPF was not administered in the study. For Basic Functioning, the WHODAS-II Getting Around and WHOQOL-BREF Physical scales were selected. Although WHOQOL-BREF Social and SIPP-SF Identity Integration both met the thresholds for inclusion for Well-Being, the scales selected yielded stronger primary loadings and weaker cross-loadings in Ro and Clark's (2009) data. And although three other WHODAS-II scales met thresholds for Basic Functioning, the WHOQOL-BREF Physical scale was included instead to maximize measurement breadth. In addition, the authors did not want some factors to be represented by more scales than other factors. Overall, the pattern of results did not change significantly when these other scales were included into the factor scores.

For both baseline scales and daily items of dysfunction, single-factor exploratory factor analyses (EFAs) were used to create factor scores for each of the four dysfunction domains. Two items on the daily Interpersonal and Social Relationships factor were removed prior to computation of the final factor scores because they yielded weak loadings on the factor.

In general, the dysfunction intercorrelations and trait-dysfunction correlations—which are presented in Table 2—matched hypotheses. Dysfunction intercorrelations were either moderate or strong, and each daily dysfunction factor yielded its strongest correlation with its corresponding baseline factor. The only exception was with daily Interpersonal and Social Relationships, which correlated equally with baseline Self-Mastery as it did with baseline Interpersonal and Social Relationships.

Regarding trait-dysfunction relations, of the hypothesized correlations (underlined in the table), 93% (13 of 14) were moderate or strong. Notably the correlation between Detachment and Interpersonal and Social Relationship was smaller than expected, due perhaps to idiosyncrasies in the DFQ scale for this domain.

As expected, dysfunction intercorrelations generally were stronger than trait-dysfunction correlations across methods. However, they were not stronger than trait-dysfunction correlations within methods, likely due to shared method variance. Overall, these results suggest that there is substantial overlap between traits and dysfunction (with the exception of Basic Functioning), as assessed through prominent self-report measures.

Differentiability of Personality Traits and Baseline Dysfunction

To further test the differentiability of traits and concurrently rated dysfunction, a series of hierarchical linear regressions was conducted. In each regression, a single daily dysfunction factor was included as a dependent variable, to be predicted by SNAP-2 traits in Model 1, the matched baseline dysfunction factor in Model 2, and the remaining dysfunction factors in Model 3. The change in R^2 in each model was tested for significance based on an alpha level of .0125 after a Bonferroni correction for 4 models (i.e., .05/4). R^2 change effect sizes

were interpreted by Cohen (1988) conventions (change effects of .01, .06, and .14 were interpreted as small, medium, and large, respectively).

Hierarchical regression results are presented in Table 3. SNAP-2 R^2 s ranged from .19 to .37. All traits accounted for significant variance in the daily dysfunction factors. The changes in R^2 after adding the matched baseline dysfunction factor averaged .03 (range = .00 to .07). These incremental effects were significant for all DVs except Interpersonal and Social Relationships. Although statistically significant, the change effects were in the small range, with the exception of Basic Functioning. To further test their differentiability, the regressions were analyzed in the reverse order (baseline dysfunction in Model 1 and SNAP-2 traits added in Model 2). These results revealed that traits added significant incremental variance to the prediction of all daily dysfunction domains above and beyond the baseline dysfunction factors. In the interest of space these results were not included, but are available upon request.

Discussion

The primary purpose of this study was to extend our understanding of the factors underlying psychosocial functioning by (a) examining their relations with maladaptive personality traits, and (b) comparing their predictive validities with respect to an important criterion (i.e., daily behavioral ratings of dysfunction). In particular, we sought to understand how traits and dysfunction relate and whether they can be meaningfully differentiated. This is a particularly important question given the proposed separation of traits from related impairments in the alternative PD classification system presented in Section III of DSM-5 (APA, 2013).

Baseline vs. Daily Dysfunction

Scales selected from Ro and Clark's (2009) study not only formed cohesive dysfunction factors, but also meaningfully related to aggregated daily ratings of dysfunction. Specifically, individuals who rated themselves as having generally low well-being, at baseline, also rated themselves as having low well-being on a daily basis (e.g., "Within the last 24 hours, I had negative thoughts about myself"). Global self-ratings of problems with self-mastery and basic functioning also related specifically with daily ratings of these problems. In contrast, baseline ratings of global interpersonal problems did not relate as strongly or specifically with daily interpersonal problems. Possible explanations for the relatively weaker interpersonal effects are (a) that all domains of PD-related psychosocial dysfunction may come with relatively equal, non-specific costs to daily interpersonal interactions, and/or (b) that the DFQ may have excluded important relevant daily behaviors that are specific to interpersonal problems. To this second point, it may also be that a longer rating interval would have been more sensitive to interpersonal difficulties related to detachment.

Overall, the findings suggest that Ro and Clark's factors can be assessed at a daily level; however, these factors also show moderate links with most other domains of daily dysfunction. Given this, it appears that reported problems in functioning at baseline predict multiple types of problems at a daily level. Although the lack of clean, one-to-one

correspondences between inter-correlated domains of baseline dysfunction and daily dysfunction is not surprising, these findings suggest that the structure of functioning may not be as complex as four factors. This interpretation is in line with Ro and Clark's (2013) more recent three-factor solution of functioning, which excludes Self-Mastery. In light of the DSM-5 Section III alternative model for PD classification, more work needs to be done to understand the relevant domains of PD-related dysfunction, how best to assess them, and whether these domains differ meaningfully from current models and measures of PD traits.

Traits vs. Dysfunction

Our results revealed strong associations between broad domains of dysfunction and personality traits when both constructs were assessed using baseline self-report methods. Moreover, matched dysfunction validity correlations (i.e., baseline dysfunction correlating with daily dysfunction) were not much stronger than the baseline trait-dysfunction correlations. Taken together, these findings might suggest that prominent measures of psychosocial functioning are not meaningfully distinct from maladaptive personality trait measures. Furthermore, hierarchical regression analyses failed to show strong psychometric differentiability between dysfunction and traits. Although baseline dysfunction ratings showed statistically significant prediction of daily dysfunction (except for daily Interpersonal and Social Relationships) above and beyond trait ratings, these increments were small in magnitude and not as large as would be expected if these reflected truly unique constructs. Given the proposed distinction between traits and dysfunction, we might have expected to see stronger incremental effects, as the DFQ was constructed to maximize its relation with the baseline dysfunction models.

Despite this prediction, it is not entirely surprising that traits and dysfunction did not cleanly differentiate. On the surface, dysfunction appears to be built into the SNAP-2 trait scales (and likely other maladaptive personality trait measures). An examination of item content across measures reveals similar item content between the dysfunction and SNAP-2 scales (e.g., SIPP Relational Functioning: "Even among good friends, I do not show much of myself" vs. SNAP-2 Detachment: "Even when I'm around other people, I keep to myself"). Similarity in item content is true for all dysfunction factors except Basic Functioning. This mirrors the regression results showing that Basic Functioning, as assessed by the WHODAS-II and some WHOQOL-BREF scales, shows the most differentiation from personality trait assessment. Overall, it seems that alternative methods for assessing PD-related dysfunction (i.e., Well-Being, Self-Mastery, and Interpersonal and Social Relationships) should be considered (e.g., daily behavior measures) when distinctions between traits and dysfunction are desired.

Clinically, our results suggest that general baseline PD trait measures likely capture both the style *and* severity of personality pathology. However, follow-up assessments of functioning might help to better specify the particular nature of the impairment(s) presented by a given patient. Ideally, this follow-up assessment should include measurement of functioning at the level of the behavior to help determine if the patient's personality is interacting with his or her environment to result in psychosocial dysfunction (e.g., unnecessary interpersonal conflict, difficulty completing work-related tasks).

Limitations and Future Directions

Our study is novel and informative in the broader PD impairment literature, but it is not without limitations. First, the use of college participants is a potential limitation in a study assessing personality disorder and related psychosocial dysfunction; however, it is important to note that (a) the use of dimensional models improves the generalizability of these findings, as stable structures of personality pathology traits have been found across clinical and nonclinical samples (Livesley, Jang, & Vernon; 1998), and (b) the scales of PD traits and dysfunction often used in clinical samples (e.g., SNAP-2, WHODAS-II) yielded acceptable variability in the present sample. Nonetheless, psychiatric and forensic samples may reveal psychosocial dysfunction not found in college samples (e.g., cognitive impairment, severe criminal behavior). Likewise, as the DFQ was designed to assess dysfunction within a college sample, future work is needed to identify daily behavioral markers of dysfunction in other sample types.

Second, the current study examined only the links between personality traits and dysfunction, which opens the possibility that there are other unmeasured variables that could be important contributing factors to baseline or daily dysfunction. For instance, clinical syndromes like anxiety, depression, or substance use disorders could mediate the effects between personality and daily dysfunction. To that end, future work may benefit from understanding how traits interact with such clinical syndromes to predict psychosocial functioning. More molecular assessment of symptoms (i.e., Ecological Momentary Assessment, Electronically Activated Recorder [EAR] observation) could help determine how personality influences mood and how that impacts functioning, moment by moment. Such ambulatory assessments may allow researchers and clinicians to measure functioning that is less influenced by self-report and retrospective biases and also minimizes confounds caused by shared method variance. Additionally, future studies measuring daily dysfunction for longer periods may help to determine when dysfunction is due to short-term clinical syndromes vs. long-standing PD-related problems.

Conclusions

The present findings suggest that PD traits and broad dimensions of dysfunction overlap significantly when measured simultaneously through self-report methods. Although baseline dysfunction generally incrementally predicted daily problems in functioning after accounting for PD traits, these increments were not as large as expected, especially for interpersonal functioning. This relative lack of psychometric distinctiveness poses a problem in light of the proposed distinction between PD traits and dysfunction in DSM-5, especially if both are assessed cross-sectionally through self-report data. To that end, as work emerges evaluating the alternative trait-based classification system proposed in Section III of DSM-5, we echo Clark's (2007) call for the development of dysfunction measurement methods less confounded by personality trait content, such as methods based on more molecular behavioral ratings.

In order for a trait system to be adopted into the official PD nosology, we believe that more clarification is needed on how best to conceptualize and operationalize PD functioning. Results from this study show that PD dysfunction assessment is not clearly distinguishable

from PD trait assessment. We feel that the nosology could be improved by including a definition of personality impairment that is more distinct from personality traits. This suggestion does not seem to be an easy endeavor, as PD traits and functioning appear to be inextricably linked. At a basic level, personality traits describe the different ways in which an individual functions within his or her environment. A beneficial approach may be to conduct a trait assessment and then assess dysfunction at the level of behavior to help determine if the traits are leading to impairment in functioning. The assessment of general severity as a “screening” method for PD makes good sense, but the Section III proposal could potentially be simplified by helping clinicians to determine which levels of trait elevations demarcate a level of severity that is diagnostic. Work akin to Markon’s (2010) modeling of internalizing and impairment to determine if there is a “cut-point” along the dimension that is associated with marked increases in impairment will likely be useful in future PD research.

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Appendix A

Daily Dysfunction Questionnaire (DDQ)

In this questionnaire you will find a series of “yes” or “no” statements, which may or may not be true for you with the last 24 hours. Please do your best to respond True (or mostly true) or False (or mostly false) to each question. Remember, each question pertains only to the last 24 hours.

1. ¹Within the last 24 hours, I was able to enjoy my day.
2. ¹Within the last 24 hours, I was happy that I got a lot of things done.
3. ¹Within the last 24 hours, I felt pretty good.
4. ¹Within the last 24 hours, I had negative thoughts about myself.
5. ¹Within the last 24 hours, I was proud of myself.
6. ¹Within the last 24 hours, I felt optimistic.
7. ¹Within the last 24 hours, I felt pessimistic.
8. ¹Within the last 24 hours, I had a lot of energy.
9. ¹Within the last 24 hours, I felt genuinely happy
10. ²Within the last 24 hours, I kept forgetting things.
11. ²Within the last 24 hours, I skipped out on doing something I normally like doing.
12. ²Within the last 24 hours, I failed to do something I was supposed to do at school/work.
13. ²Within the last 24 hours, I did everything that was expected of me.
14. ²Within the last 24 hours, I studied or read for a class.
15. ²Within the last 24 hours, I lost track of time.
16. ²Within the last 24 hours, I missed a deadline.
17. ³Within the last 24 hours, I said or did something nice for somebody.
18. ³Within the last 24 hours, I avoided being around other people.
19. ³Within the last 24 hours, I failed to help out a stranger who could have used it.
20. ³Within the last 24 hours, I said something that was mean.
21. ³Within the last 24 hours, I told somebody off.
22. ³Within the last 24 hours, I refused to speak to someone
23. ³Within the last 24 hours, I think people enjoyed being around me
24. ⁴Within the last 24 hours, I ate too little.
25. ⁴Within the last 24 hours, I had trouble getting to or staying asleep

- 26. ⁴Within the last 24 hours, I was in a lot of pain.
- 27. ⁴Within the last 24 hours, I felt as if I was walking in slow motion.
- 28. ⁴Within the last 24 hours, aches and pains interfered with me getting things done.
- 29. ⁴Within the last 24 hours, I had a hard time getting out of bed.
- 30. ⁴Within the last 24 hours, I got at least a little lost going somewhere.

Note: Items that were retained to create factor scores for this study are noted with an *.

Table 1
Descriptive Statistics for Scales Assessing Personality Pathology and Dysfunction

Scale (number of items)	<i>M</i>	<i>SD</i>	<i>Skewness</i>	<i>Kurtosis</i>	<i>α</i>
<i>Baseline Dysfunction:</i>					
<i>Well-Being:</i>					
WHOQOL-BREF Psychological (6)	68.8	17.7	-0.79	0.60	.86
PWB-54 Self-Acceptance (9)	40.0	8.8	-0.71	0.25	.90
<i>Self-Mastery:</i>					
SIPP-SF Self-Control (12)	38.0	6.7	-0.73	-0.02	.89
SIPP-SF Responsibility (12)	38.4	6.6	-0.50	-0.50	.81
<i>Interpersonal and Social Relationships</i>					
SIPP-SF Social Concordance (12)	39.5	5.3	-0.71	0.43	.88
IIP-32 Dominance (4)	2.4	2.7	1.36	1.71	.73
<i>Basic Functioning:</i>					
WHOQOL-BREF Physical Health (7)	73.2	14.1	-0.53	-0.12	.73
WHODAS-II Getting Around (5)	1.7	2.6	2.36	6.91	.82
<i>Daily Dysfunction:</i>					
Well-Being (9)	5.7	1.3	-1.12	1.15	.87
Self-Mastery (7)	2.2	0.7	0.79	1.55	.72
Interpersonal and Social Relationships (5)	0.6	0.6	1.79	4.41	.68
Basic Functioning (7)	1.3	0.9	0.92	0.41	.69
<i>SNAP-2 Trait & Temperament Scales:</i>					
Negative Temperament (28)	12.3	7.5	0.31	-1.03	.92
Mistrust (19)	7.1	4.3	0.43	-0.50	.82
Manipulativeness (20)	5.5	3.8	0.65	0.20	.78
Aggression (20)	4.4	3.7	1.01	0.61	.80
Self-Harm (16)	2.0	2.7	1.71	2.66	.83
Eccentric Perceptions (15)	4.7	3.3	0.72	-0.22	.78
Dependency (18)	5.6	3.5	0.80	0.53	.79
Positive Temperament (27)	18.6	6.0	-0.89	0.08	.88
Exhibitionism (16)	7.8	3.8	0.04	-0.82	.81

Scale (number of items)	<i>M</i>	<i>SD</i>	<i>Skewness</i>	<i>Kurtosis</i>	<i>α</i>
Entitlement (16)	8.5	3.5	−0.07	−0.69	.78
Detachment (18)	5.0	3.7	0.97	0.34	.81
Disinhibition (35)	11.1	6.0	0.56	−0.17	.83
Impulsivity (19)	5.5	3.8	0.86	0.31	.79
Propriety (20)	13.3	3.6	−0.57	−0.31	.76
Workaholism (18)	8.0	3.7	0.02	−0.51	.78

Note. *N* = 275. Daily dysfunction scales were scored by summing item scores that loaded highest on that factor. Descriptives were presented for these scales, as opposed to the factor scores.

Table 2

Intercorrelations Between Dysfunction Factor Scores and Personality Ratings

Factors/Scales	Baseline Dysfunction Factors				Daily Dysfunction Factors			
	1	2	3	4	5	6	7	8
<i>Baseline Dysfunction:</i>								
1. Well-Being								
2. Self-Mastery	.61							
3. Interpersonal and Social Relationships	.37	.69						
4. Basic Functioning	.51	.55	.40					
<i>Daily Dysfunction:</i>								
5. Well-Being	.58	.38	.21	.33				
6. Self-Mastery	.45	.56	.36	.42	.43			
7. Interpersonal and Social Relationships	.27	.37	.37	.21	.21	.54		
8. Basic Functioning	.30	.32	.17	.44	.28	.54	.53	
<i>SNAP-2 Trait & Temperament Scales:</i>								
Negative Temperament	.63	.53	.45	.46	.37	.33	.35	.39
Mistrust	.51	.49	.51	.44	.26	.35	.29	.30
Manipulativeness	.28	.62	.57	.30	.16	.48	.40	.26
Aggression	.26	.56	.62	.30	.17	.25	.31	.14
Self-Harm	.68	.55	.41	.44	.42	.43	.29	.31
Eccentric Perceptions	.38	.51	.42	.49	.17	.34	.19	.27
Dependency	.47	.35	.16	.33	.33	.29	.08	.23
Positive Temperament	-.57	-.28	-.24	-.14	-.53	-.24	-.07	-.11
Exhibitionism	-.25	.04	-.01	-.09	-.15	.10	.08	.03
Entitlement	-.38	-.04	.02	.01	-.30	-.08	-.05	-.08
Detachment	.47	.40	.58	.30	.31	.20	.20	.15
Disinhibition	.22	.56	.39	.26	.13	.45	.37	.28
Impulsivity	.20	.52	.30	.25	.15	.42	.28	.24
Propriety	.05	-.09	.03	.03	.00	-.10	-.07	-.01
Workaholism	-.06	-.09	.10	.08	-.08	-.07	.02	.05

Note. $N = 275$. The valence of Baseline Well-Being, Self-Mastery, Interpersonal and Social Relationships, and Daily Well-Being were keyed so that high factor scores reflect more dysfunction. Predicted r s are underlined. Highest r in column is *italicized*. All r s $|\geq .50|$ are **bolded**. All r s $|\geq .16|$ are significant, $p < .01$.

Table 3
Hierarchical Linear Regressions for Traits and Baseline Dysfunction Predicting Daily Dysfunction.

Models	Well-Being		Self-Mastery		Interpersonal and Social Relationships		Basic Functioning	
	F	(<i>R</i> ²)	F	(<i>R</i> ²)	F	(<i>R</i> ²)	F	(<i>R</i> ²)
1: SNAP-2 Traits	11.6*	.37*	11.3*	.36*	6.9*	.25*	5.3*	.19*
2: SNAP-2 Traits + Corresponding Baseline Factor	9.9*	.02*	10.1*	.02*	1.7	.00	23.6*	.07*
3: SNAP-2 Traits + Corresponding Baseline Factor + Remaining Baseline Factors	0.7	-.01	2.3	.01	0.1	-.01	1.9	.00

Note. *N* = 275. *R*² = unbiased adjusted *R*². Degrees of freedom for the F-Tests for Models 1, 2, and 3 were (15,259), (1,258), and (3,255), respectively.

* *p* < .0125 (Bonferroni-corrected by dividing .05 by 4, the number of simultaneous tests).