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Abstract of Dissertation

Douglas B. Samuel

The Graduate School
University of Kentucky
2008

COMPARING PERSONALITY DISORDER MODELS: FFM AND DSM-IV-TR

ABSTRACT OF DISSERTATION

A dissertation submitted in partial fulfillment of the
requirements for the degree of Doctor of Philosophy in the
College of Arts and Sciences
at the University of Kentucky

By
Douglas B. Samuel

Lexington, Kentucky

Director: Dr. Thomas A. Widiger, Professor of Psychology

Lexington, Kentucky

2008

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ABSTRACT OF DISSERTATION

COMPARING PERSONALITY DISORDER MODELS: FFM AND DSM-IV-TR

The current edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR*; American Psychiatric Association, 2000) defines personality disorders as categorical entities that are distinct from themselves and from normal personality traits. However, many scientists now believe that personality disorders can best be conceptualized using a dimensional model of traits that span normal and abnormal personality, such as the Five-Factor Model (FFM). Many research studies have indicated that the current personality disorder system can be adequately conceptualized using the FFM. However, if the FFM or any dimensional model is to be considered as a credible alternative to the current model, it must first demonstrate an increment in the validity of the assessment offered within a clinical setting. Thus, the current study extended previous research by comparing the convergent and discriminant validity of the current *DSM-IV-TR* model to the FFM across four assessment methodologies. Eighty-eight individuals that were currently receiving ongoing psychotherapy were assessed for the FFM and the *DSM-IV-TR* personality disorders using self-report, informant report, structured interview, and therapist ratings. The results indicated that the FFM had an appreciable advantage over the *DSM-IV-TR* in terms of discriminant validity and, at the domain level, convergent validity. Implications of the findings for future research are discussed.

Keywords: Five-Factor Model, validity, convergent, discriminant, NEO PI-R

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June 10, 2008
Date

COMPARING PERSONALITY DISORDER MODELS: FFM AND DSM-IV-TR

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DISSERTATION

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To my parents, who instilled in me a lifelong love of learning. This degree is but the culmination of the educational journey they started me on long ago.

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Section One: Introduction

Since the early psychiatric nomenclature proposed by Philippe Pinel in his 1801 work that translates into English as “Treatise on Insanity,” maladaptive personality traits have been recognized as problematic and distinct forms of mental illness. Tyrer, Casey and Ferguson (1993) summed up Pinel’s description of this category as individuals who “possessed a clear, intact reasoning ability, and showed no evidence of delusional beliefs,” yet consistently evidenced maladaptive social behavior (p. 2). Nevertheless, despite this early appearance and continued presence throughout each subsequent revision and refinement, the classification of personality disorders has been among the most problematic in the psychiatric nomenclature. Certainly one of the more significant recent shifts in the content and method of psychiatric diagnoses was the adoption by the American Psychiatric Association (APA) of the Feighner et al. (1972) approach to diagnosis in the third edition of the *Diagnostic and Statistical Manual (DSM-III)*; APA, 1980). Feighner and colleagues developed relatively specific and explicit criterion sets to reliably diagnose categories with the hope of eventually establishing their validity through increasingly precise clinical description, greater delineation of the syndromes from other disorders, laboratory studies, follow-up studies of outcome, and family studies (Robins & Guze, 1970).

The authors of *DSM-III* embraced this approach for most of the mental disorder diagnoses included in the diagnostic manual (Spitzer, Williams & Skodol, 1980). The only two exceptions were (temporarily) schizoaffective disorder and perhaps the diagnosis of mental retardation, the latter continuing to use a multifactorial, dimensional model of classification developed largely through psychometric research on general cognitive functioning. *DSM-III* included eleven personality disorder diagnoses; five of which were new additions (i.e., avoidant, borderline, dependent, narcissistic and schizotypal).

Specific and explicit criterion sets were provided for each of the personality disorders (PDs), consistent with the approach taken by Feighner et al. (1972). However, soon after the publication of *DSM-III*, it became apparent that some of the criterion sets were very problematic. Specifically, the criterion sets for the schizoid, avoidant, dependent and compulsive PDs were “monothetic,” requiring that all of the specific features be present in order for the disorder to be diagnosed. Researchers who were applying these criterion sets soon discovered that this was an unrealistic requirement. Many persons with clinically significant personality impairment failed to meet the stringent requirements of *DSM-III*. The authors of *DSM-III-R* (APA, 1987) therefore shifted to polythetic criterion sets for all of the PDs, requiring that only a subset of them be present (Spitzer & Williams, 1987; Widiger, Frances, Spitzer, & Williams, 1988). There were also proposals to use dimensional models of classification (Livesley, 1985; Widiger & Frances, 1985), but these were not provided any formal adoption or recognition by the *DSM-III-R* PD advisory committee.

Criticisms of the Categorical Model

Many deficiencies of the current categorical system have been pointed out. Chief among them are: a) Excessive diagnostic co-occurrence, b) inadequate coverage of the full range of personality difficulties seen in clinical practice, c) excessive heterogeneity within diagnostic categories, d) lack of a meaningful or well-validated boundary between normal and disordered personality, e) questionable temporal stability of the diagnoses, f)

dissatisfaction among the clinicians who use it, and g) inadequate scientific foundation (Clark, 2007; Trull & Durrett, 2005; Widiger & Samuel, 2005a; Widiger & Trull, 2007). The excessive diagnostic co-occurrence of personality disorders has been widely replicated (Bornstein, 1998; Lilienfeld, Waldman, & Israel, 1994). It has been reported that a majority of persons diagnosed with one personality disorder also meet the criteria for at least one additional PD (Oldham et al., 1992). Suffice it to say that the maladaptive personality functioning of patients does not appear to be adequately described by a single diagnostic category. Indeed, no person is generally well described by just one word; instead each person is more accurately described by a constellation of personality traits (John & Srivastava, 1999).

In addition to this co-occurrence much research also suggests that clinicians still are not able to select an appropriate category for most personality-disordered clients. Westen and Arkowitz-Westen (1998) reported that in a national random sample of therapists, only 39.4% of their 714 patients who were being seen for “enduring, maladaptive personality patterns” actually met the criteria for any *DSM-IV-TR* (APA, 2000) PD diagnosis (Westen & Arkowitz-Westen, 1998, p. 1767). The clinicians reported the treatment of commitment, intimacy, shyness, work inhibition, perfectionism, and devaluation of others that were not well described by any of the diagnostic categories. Clark, Watson, and Reynolds (1995) reported that many persons are diagnosed with Personality Disorder – Not Otherwise Specified (PDNOS), making this wastebasket category among the most commonly used diagnoses in clinical practice (Verheul & Widiger, 2004). If so many individuals whose personality traits cause clinically significant impairment cannot be usefully categorized by the current system, then the diagnostic nomenclature does not appear to be providing adequate coverage.

There are also important differences among the persons who share the same personality disorder diagnosis. Patients with the same diagnosis will vary substantially with respect to which diagnostic criteria were used to make the diagnosis, and these differences are not trivial. For example, only a subset of persons who meet the *DSM-IV-TR* criteria for antisocial personality disorder will have the prototypic features of the callous, ruthless, arrogant, charming and scheming psychopath (Hare, 2003) and there are even important differences among the persons who would be diagnosed as psychopathic (Brinkley, Newman, Widiger & Lynam, 2004). Similar distinctions are made for other personality disorders (Millon et al., 1996), such as the differentiation of borderline psychopathology with respect to the dimensions of affective dysregulation, impulsivity, and behavioral disturbance (Sanislow et al., 2002), and the differentiation of dependent personality disorder into submissive, exploitable, and affectionate variants (Pincus & Wilson, 2001).

An additional problem has been the lack of a meaningful distinction between normal and maladaptive personality. One of the innovations of *DSM-III* was the provision of explicit diagnostic criteria, including a specified threshold for a disorder’s diagnosis. However, the existing diagnostic thresholds lack a compelling rationale (Tyrer & Johnson, 1996). In fact, no explanation or justification has ever been provided for most of them (Widiger & Corbitt, 1994). The thresholds for *DSM-III* schizotypal and borderline diagnoses are the only two for which rationales have ever been provided. The *DSM-III* requirements that the patient have four of eight features for the schizotypal diagnosis and five of eight for borderline (APA, 1980) were determined on the basis of maximizing

agreement with similar diagnoses provided by clinicians (Spitzer, Edicott, & Gibbon, 1979). However, the current diagnostic thresholds for these personality disorders bear little relationship with the original thresholds established for *DSM-III*. Blashfield, Blum, and Pfohl (1992) reported a kappa of only .025 for the *DSM-III* and *DSM-III-R* schizotypal personality disorders, with a reduction in prevalence from 11% to 1%. Additionally, seemingly minor changes to diagnostic criterion sets have resulted in unexpected and substantial shifts in prevalence rates that complicate scientific theory and public health decisions (Blashfield et al., 1992; Narrow, Rae, Robins, & Regier, 2002).

An Alternative Model

It is acknowledged in the text of *DSM-IV-TR* that “an alternative to the categorical approach is the dimensional perspective that Personality Disorders represent maladaptive variants of personality traits that merge imperceptibly into normality and into one another” (APA, 2000, p. 689). The NIMH and APA sponsored DSM-V Research Planning Work Groups to develop white papers that would guide research in a direction that would maximize their impact on future editions of the diagnostic manual. The Nomenclature Work Group, charged with addressing fundamental assumptions of the diagnostic system, concluded that it would be “important that consideration be given to advantages and disadvantages of basing part or all of DSM-V on dimensions rather than categories” (Rounsaville et al., 2002, p. 12). They were not proposing that DSM-V convert to a dimensional model, but they did suggest that “there is a clear need for dimensional models to be developed and for their utility to be compared with that of existing typologies in one or more limited fields, such as personality” (Rounsaville et al., 2002, p. 13). Following these white papers, a series of international conferences were then held to further refine the research agenda for DSM-V. It was decided that the first of these conferences, “Dimensional Models of Personality Disorder: Etiology, Pathology, Phenomenology and Treatment,” should be focused explicitly on this issue (Widiger & Simonsen, 2005).

Although there have been several dimensional models proposed to modify or replace the current nosology, one of the more heavily researched alternatives is the five-factor model of personality (FFM; McCrae & Costa, 1999). The FFM was developed as a model of general personality functioning and consists of five bipolar dimensions (i.e., neuroticism vs. emotional stability, extraversion vs. introversion, openness vs. closedness to experience, agreeableness vs. antagonism, and conscientiousness vs. undependability). These five broad domains can each be differentiated into underlying facets (e.g., the facets of agreeableness include trust vs. mistrust, compliance vs. aggression, altruism vs. exploitation, tender-mindedness vs. tough-mindedness, straightforwardness vs. deception, and modesty vs. arrogance). Please see Table 1.1 for a complete description of the FFM domains and underlying facets. The FFM is a particularly robust dimensional model that has succeeded well in representing alternative models of personality and diverse collections of traits within a single, integrative, hierarchical model (Ozer & Reise, 1994).

In addition, the empirical support for the construct validity of the FFM is extensive. This support includes (a) convergent and discriminant validity across self, peer, and spouse ratings (Costa & McCrae, 1988); (b) temporal stability across 7 to 10 years (Costa, Herbst, McCrae & Siegler, 2000); (c) cross-cultural replication (McCrae & Allik, 2002); (d) heritability (Yamagata et al., 2006); and (e) links to a wide variety of important life outcomes (Ozer & Benet-Martinez, 2006).

Table 1.1
Domains and Facets of the Five-Factor Model

Neuroticism vs. Emotional Stability

Anxiousness vs. Unconcerned
 Angry hostility vs. Dispassionate
 Depressiveness vs. Optimistic
 Self-Consciousness vs. Shameless
 Impulsivity vs. Restrained
 Vulnerability vs. Fearless

Extraversion vs. Introversion

Warmth vs. Coldness
 Gregariousness vs. Withdrawal
 Assertiveness vs. Submissiveness
 Activity vs. Passivity
 Excitement-Seeking vs. Lifeless
 Positive Emotions vs. Anhedonia

Openness vs. Closedness

Fantasy vs. Concrete
 Aesthetics vs. Disinterest
 Feelings vs. Alexithymia
 Actions vs. Predictable
 Ideas vs. Closed-minded
 Values vs. Dogmatic

Agreeableness vs. Antagonism

Trust vs. Mistrust
 Straightforwardness vs. Deception
 Altruism vs. Exploitative
 Compliance vs. Aggression
 Modesty vs. Arrogance
 Tender-Mindedness vs. Tough-mindedness

Conscientiousness vs. Disinhibition

Competence vs. Laxness
 Order vs. Disorderly
 Dutifulness vs. Irresponsibility
 Achievement-Striving vs. Lackadaisical
 Self-Discipline vs. Negligence
 Deliberation vs. Rashness

The past two decades have seen a substantial body of research that has examined the relationship between the FFM and the *DSM* personality disorders (Widiger & Costa, 2002). A meta-analysis of a number of these studies (Saulsman & Page, 2004), reviews of this research (Clark, 2007; Livesley, 2001), and an interbattery factor analysis of 20 previously published data sets that examined relations between the FFM and the personality disorders (O'Connor, 2005) all have led to the conclusion that there are strong and robust links between the *DSM-IV-TR* PD formulations and the dimensions of normal personality. This body of research suggests that each *DSM-IV-TR* personality disorder can be conceptualized in terms of the FFM, such that each PD is characterized by a distinct FFM profile (Widiger, Trull, Clarkin, Sanderson, & Costa, 2002). These profiles have emerged consistently across studies using a variety of sources, including self-report,

semi-structured interview and clinicians' ratings, and using a variety of methodologies, including hypothetical case vignettes, prototypes, as well as community and clinical samples (e.g., Lynam & Widiger, 2001; Miller, Reynolds, & Pilkonis, 2004; Samuel & Widiger, 2004; Sprock, 2002; Trull, Widiger & Burr, 2001; Wilberg, Urnes, Friis, Pederson & Karterud, 1999). However, the vast majority of these studies have been confined to ways in which the current diagnostic categories can be described and reformulated in terms of the five-factor model. Saulsman and Page concluded that there is now the need for an expansion of this research toward more direct clinical applications:

The utility of the five-factor model needs to start being evaluated, not in the context of its ability to predict specific personality disorder diagnostic categories, but in terms of its use in populations of known personality dysfunction generally, because that is where research indicates that the five-factor model could be most useful at this stage. (Saulsman & Page, 2003, p. 86)

The purpose of the proposed study will be to explore the strengths and weakness of both the current *DSM-IV-TR* personality disorder model and the FFM with respect to their convergent and discriminant validity across four assessment methodologies (i.e., self-report, informant-report, semi-structured interview, and unstructured clinical interview) within a clinical sample.

Blacker and Endicott (2000) have stated that a fundamental test of the validity of any psychiatric nomenclature is the agreement of descriptions across various assessment methodologies. There are four methods by which personality difficulties are typically assessed in a clinical setting. The most common method used in general clinical practice is the unstructured clinical interview (Watkins, Campbell, Nieberding & Hallmark, 1995; Westen, 1997). Clinicians may also use self-report personality inventories, and/or semi-structured interviews (Clark & Harrison, 2001; Farmer, 2000; Widiger & Samuel, 2005b; Zimmerman, 2003). The latter method is the preferred approach of researchers (Rogers, 2001). A final method recommended in the text of *DSM-IV-TR* for understanding an individual's personality difficulties is to have an informant, who knows the client well, provide a report (APA, 2000, p. 686). The informant report method converges moderately with the results obtained by semi-structured interviews and self-report inventories, but the existing research also demonstrates that each might yield uniquely valid information (Klonsky, Oltmanns & Turkheimer, 2002).

In order to establish the validity of a nomenclature, these differing assessment methodologies must be compared to see how they relate to one another. Existing research suggests that the validity of the *DSM* PD nomenclature has not been well supported. Studies have repeatedly indicated weak agreement between clinicians' *DSM-IV-TR* personality disorder diagnoses on the basis of their unstructured clinical interviews and *DSM-IV-TR* diagnoses obtained through self-report inventory of the same patient (Perry, 1992; Westen, 1997; Widiger & Boyd, in press). For example, Hyler and colleagues (1989) found that the convergent validity coefficients between clinicians' *DSM-III* PD diagnoses and diagnoses assigned by the Personality Diagnostic Questionnaire (Hyler, 1994) ranged from a low of -.16 (schizoid) to a high of .46 (borderline) with a median

value of .08. Convergent validity between self-report and semi-structured interview assessments has been better, but the results still suggest fundamental concerns.

Widiger and Boyd (in press) summarized 68 studies providing convergent correlations between assessments of the *DSM* personality disorders. They found that the median convergent correlation between self-report and semi-structured interviews across personality disorders was .38 ($N = 249$ correlations). In contrast, the median convergent correlation for the studies using only self-report assessment inventories was .59 ($N = 377$ correlations). From this evidence, they concluded that the convergent agreement between measures tended to increase as the structure of the assessment increased (self-report inventories being essentially fully structured interviews). Klonsky and colleagues (2002) identified 17 studies that had included the convergence between *DSM* PD assessments using self-report and informant report methodologies. Across these studies, Klonsky and colleagues found that the median correlation was .36 and the median kappa was .14 between self and informant reports.

In contrast to these findings, which indicate relatively weak convergent validity for the *DSM* personality disorders across methodologies, the initial examination of these same coefficients with the five-factor model appears promising. McCrae and colleagues (2004) reviewed the convergence between the self and peer report measures of the FFM and found that the median correlations for the domains ranged from a low of .40 (agreeableness) to a high of .47 (extraversion) with a median across all domains of .43. These correlations were even higher when the person providing the ratings was a spouse, ranging from a low of .42 (conscientiousness) to a high of .57 (extraversion) with a median value of .51 across the domains. However, these data were collected with a general community sample, including individuals that may not possess the same distortions in self-image or distress associated with personality disorder symptomatology and fluctuating mood states that are more prevalent in a clinical sample.

We are aware of only two studies that have examined the convergence of self and informant reports of both an FFM and a *DSM* PD measure within a purely clinical sample (Ball, Rounsaville, Tennen, & Kranzler, 2001; Miller, Pilkonis, & Clifton, 2005). Miller and colleagues (2005) collected FFM and *DSM* PD ratings from a group of 69 psychiatric patients and a nominated informant. They found that the convergent correlations for the five FFM domains rated ranged from .23 (agreeableness) to .71 (openness) with a median correlation of .43 across all the facets of the NEO PI (Costa & McCrae, 1985). The correlations between ratings of the eight *DSM* PDs rated were somewhat higher, ranging from .37 (avoidant) to .69 (antisocial) with a median convergent value of .51 (Miller et al., 2005). Although these results would seem to indicate higher convergence for the *DSM*, they should be interpreted cautiously as the informants provided these *DSM* ratings using a mixed methodology. While the FFM data were collected exclusively via questionnaire, the *DSM* PD ratings were collected from informants using both questionnaire and structured interview procedures (Pilkonis et al, 1995).

Ball and colleagues (2001) provided the only direct comparison of the convergence for the FFM and *DSM* PDs using identical assessment methodologies. In a sample of substance abuse outpatients they reported the average convergent correlation between the self-report and informant report were similar for both the FFM ($r = .31$) and the *DSM* ($r = .29$). However, even this effort was limited by the fact that the FFM self-report measure was the NEO Five Factor Inventory (NEO-FFI), an abbreviated form that only measures

the five broad domains of the FFM (Costa & McCrae, 1992). Clearly, further research on the convergent validity of informant FFM ratings should be conducted with a more detailed, facet-level, measure of the FFM within a sample of individuals with personality difficulties.

The Structured Interview for the Five-Factor Model (SIFFM) is currently the only semi-structured interview to assess a dimensional model of personality disorder (Trull & Widiger, 1997). Trull and colleagues (1998) administered this interview as well as the self-report NEO PI-R to a sample of 233 participants, including 46 outpatient clients. The cross-method convergent correlations for the five factors in the entire sample ranged from a low of .65 (openness) to a high of .84 (extraversion) and had a median value of .77. The convergent values within the clinical subsample were comparable, with a median value of .78 and ranged from a low of .46 (openness) to a high of .83 (conscientiousness).

We are unaware of any studies that have compared FFM ratings provided by clinicians following an unstructured clinical interview with any other assessment of the FFM. Blais (1997) asked 100 clinicians to describe one of their clients in terms of the five broad domains of the FFM and provide their primary PD diagnosis. Although a consistent FFM profile emerged for each PD, later research has shown that it is necessary to examine the facet level of each of the five factors to adequately differentiate each disorder (Axelrod, Widiger, Trull, & Corbitt, 1997). Samuel and Widiger (2004) reported that practicing clinicians were able to conceptualize a hypothetical prototypic case of each personality disorder in terms of the FFM and apply it in a way that is both reliable and consistent with the way researchers describe the prototypes. Samuel and Widiger (2006) asked practicing psychologists to describe one of three case vignettes, based on published case histories, in terms of the FFM and found that they were able to provide reliable ratings. Sprock (2002) also found clinicians generated a consistent FFM profile for 6 brief case vignettes (3 prototypic and 3 non-prototypic cases). While it is promising that reliable FFM patterns emerge for clinicians' ratings of PDs within and across studies, it is important to examine the agreement between FFM ratings provided by a clinician on the basis of an unstructured clinical interview with the scores obtained from other assessment methodologies.

Section Two: Method

Participants

Eighty-eight females receiving ongoing psychotherapy were recruited from the Lexington, Kentucky area. A priori analyses of statistical power indicated that 75 participants would provide a power estimate of .80 to detect effect sizes at .28 or larger with $\alpha = .05$ (Cohen, Cohen, West & Aiken, 2003). Eighty-one of these women (92%) were recruited from a local, residential substance abuse treatment program, while the remaining seven participants were receiving services at other mental health clinics in the area. Three participants failed to provide demographic information, but information on the remaining 85 is provided. The women ranged in age from 19 to 60, with a mean age of 34.8 years. They were primarily Caucasian (72.9%), with 23.5% indicating African-American, and 3 providing the response of "other." Forty percent of the women were single, while 43.5% were divorced or widowed, and 16.5% were married or cohabitating. Their level of education completed ranged from junior high (20.2%) to a graduate degree (6.0%), with the modal participant indicating that she had completed "some college." The financial resources of the women were quite low, with a majority (81.0%) indicating that their annual income was less than \$7,000 (i.e., the lowest response option).

A total of 14 clinicians, who served as the primary therapists for these women, also provided ratings for 79 of the participants. The number of clients referred by each clinician ranged from a low of one to a high of 18, with two being the median number of clients per clinician. These clinicians were all female, and predominantly Caucasian (78.6%), but did include two Asian-Americans (14.3%) and one African-American (7.1%). Their level of training and experience varied considerably. Three had doctoral degrees (21.4%) and eight had obtained a Master's degree in a mental health field (57.2%), while three individuals were enrolled in graduate programs, but had not yet earned a Master's Degree. Their experience ranged from a low of one year to a high of 21 years, with a mean of 4.2 years since earning their highest degree. The percentage of working time they spent providing clinical services ranged from a low of 20% to a high of 100%, with a mean of 53.2%. All clinicians identified their theoretical orientation as cognitive, while 78.6% also listed behavioral, 57.1% interpersonal, 28.6% humanistic, and 21.4% psychodynamic.

Recruitment and Selection

The clinicians and patients were recruited largely from a residential substance-abuse treatment facility for women. A few additional female patients were obtained from affiliated practitioners. After providing written, informed consent, these clinicians were asked to distribute solicitation flyers to all clients without a history of psychosis or a primary diagnosis of bipolar disorder, as they arrived for regularly scheduled appointments. Interested clients then contacted the experimenter to schedule initial appointments. During this initial meeting, the interviewer further explained the procedures and obtained written informed consent. Clients were also asked to designate an informant who knew them well and might be willing to complete three questionnaires describing the client's personality.

Materials

Semi-structured Interview for the Five-Factor Model (SIFFM; Trull & Widiger, 1997). The SIFFM assesses the five domains and 30 facets of the FFM using a series of guided questions. The SIFFM is the only existing interview measure of the FFM and has

shown good convergence with other measures of the FFM (Trull et al., 1998). Internal consistency in the current sample was good, with alphas ranging from a low of .74 (openness) to a high of .87 (conscientiousness), with a median value of .86.

Personality Disorder Interview – IV (PDI-IV; Widiger et al., 1995). The PDI-IV is a validated measure of the DSM-IV-TR personality disorders and yields a dimensional rating of the extent to which the individual is characterized by each of the 10 PDs. A set of three to four open-ended questions are used to assess the individual diagnostic criteria for each PD, for which the interviewer assigns a score of 2 (prototypic), 1 (threshold), or 0 (absent). For the purposes of the current study, the scores were collapsed to indicate whether the symptom was either present or absent. Internal consistency in the current sample was somewhat weak, with alphas ranging from a low of .41 (schizoid) to a high of .72 (borderline), with a median of .58.

NEO Personality Inventory – Revised (NEO PI-R; Costa & McCrae, 1992). The NEO PI-R contains 240 statements to which the individual responds “strongly disagree,” “disagree,” “neutral,” “agree,” or “strongly agree” (0 – 4 Likert-type scale). The NEO PI-R provides an assessment of the five domains and 30 facets of the FFM and has extensive validity support across raters, time, and cultures (e.g., Costa et al., 2000). In the current sample, the internal consistency was excellent, with alphas ranging from a low of .82 (extraversion) to a high of .89 (conscientiousness), with a median of .86. The informant version of the NEO PI-R is identical to the self-report version, except that the items are written in the 3rd person, rather than the first person. The alpha values for the informant version were also excellent, ranging from .78 (openness) to a high of .94 (conscientiousness), with a median of .90.

Schedule of Nonadaptive and Adaptive Personality (SNAP; Clark, 1993). The SNAP is a 375-item that provides a measure of 3 primary temperaments, 12 maladaptive trait scales, as well as the DSM-IV-TR personality disorders. The SNAP is self-report and the individual reads each statement and determines whether it is “true” or “false” for them. In the current sample, the SNAP personality disorder scales obtained reasonable internal consistency, with exception of the obsessive-compulsive scale, with an alpha of .36. The other PDs ranged from .62 (schizoid) to .81 (paranoid), with an overall median of .70.

Five-Factor Model Rating Form (FFMRF; Mullins-Sweatt, Jamerson, Samuel, Olson, & Widiger, 2006). The FFMRF is a one-page instrument that asks the rater to describe an individual on the 30 facets of the FFM using a 1 – 5 Likert-type scale (see appendix A). To assist the participants in providing these ratings, two adjective descriptors are included at both poles of each facet. In the current study, both the therapist and informant ratings were collected using the FFMRF. The internal consistencies for the therapists’ ratings were reasonable, with a median of .78, but ranged from a low of .61 (neuroticism) to a high of .83 (conscientiousness). The informant ratings showed better overall internal consistency with four of the domains over .74 and a median of .80. However, the alpha value for the domain of openness was unacceptably low, with a value of .39.

DSM-IV Personality Disorder Rating Form (DSMRF). The DSM-IV PD rating form (DSMRF) asks the individual to rate the extent to which he/she exhibits characteristics for each of the ten personality disorders (see appendix B). Although the DSM model currently uses a categorical approach to diagnosis, the DSMRF uses a 1-5 Likert scale to produce dimensional ratings of each disorder. Both the therapist and informant ratings

were collected using this instrument. However, because each PD is assessed only by a single-item, internal consistency statistics could not be computed.

Procedure

Participants completed a packet of information, including a short demographic questionnaire as well as two self-report inventories (i.e., the NEO-PI-R, SNAP). Patients received \$20 as compensation for their time and effort. Following the completion of these inventories participants completed two semi-structured interviews administered by the primary investigator or other trained graduate students. One semi-structured interview assessed the *DSM-IV-TR* personality disorders (i.e., the PDI-IV), while the other provided scores on the five domains and 30 facets of the FFM (i.e., the SIFFM).

Interviews were audiotaped and selected sessions were coded by other interviewers to calculate interrater reliability. All interviewers were required to read both interview manuals before the study began and received extensive training from an author of both instruments (i.e., T.A Widiger). During the data collection, weekly meetings were held to discuss coding issues, ensure uniformity, and prevent rater drift. Sixteen of the SIFFM sessions were coded and interrater reliability was excellent at the domain level with Pearson correlations ranging from a low of .90 (openness) to a high of .99 (agreeableness and conscientiousness), with a median of .97. Agreement was also strong at the facet level with a median correlation of .94. The interrater reliability was lower, but still acceptable for the 18 PDI-IV sessions coded, ranging from a low of .57 (narcissistic) to a high of .92 (dependent) with a median correlation of .83.

After completing the interviews, participants designated an informant who knew them well. This informant was contacted and asked to describe the participant using the other-report version of the NEO-PI-R, as well as informant versions of the FFMRF and *DSM-IV* rating form. Informants received \$5 for providing these ratings.

Finally, the therapist for each participant completed a demographic questionnaire as well as three measures describing the client. These included a brief treatment history questionnaire (including all five axes of the *DSM*, as well as medication history), as well as clinician-report versions of the FFM and the *DSM-IV* rating forms. These rating forms allowed the therapists to provide dimensional ratings of the client for the 10 *DSM-IV-TR* PDs and the 30 facets of the FFM, along a 1-5 Likert scale. Therapists also provided written, informed consent and were reimbursed \$50 for their time and effort.

Section Three: Results

Table 3.1 provides the means and standard deviations obtained on the self-report SNAP, semi-structured interview PDI-IV, therapist DSMRF, and informant DSMRF assessments of the *DSM-IV-TR* personality disorders. The values for the SNAP PD scales are comparable to those reported for a sample of 45 inpatients within the manual (Clark, Simms, Wu, & Casillas, in press). Table 3.1 also provides the means and standard deviations obtained on the self-report NEO PI-R, semi-structured interview SIFFM, informant NEO PI-R, therapist FFMRF, and informant FFMRF assessments of the five domains of the FFM. These scores are again consistent with findings previously reported in clinical samples (e.g., Trull et al., 2001).

The prevalence rates of the *DSM-IV-TR* personality disorders, according to the PDI-IV, were examined to determine the level and type of pathology present in the sample. While it was clear that those disorders from the dramatic-emotional cluster predominated the current sample, there was at least one individual that met criteria for each of the ten *DSM-IV-TR* diagnoses. However, it should be pointed out that for some of the disorders, only a single individual met criteria (i.e., narcissistic, schizoid). Antisocial was the most prevalent PD with 29 individuals (35.4%) meeting criteria for the disorder. Additionally, 19 individuals (23.2%) met criteria for borderline PD and 18 (21.4%) met criteria for avoidant. These findings are generally consistent with expectations for a population of female substance-abusers.

Examination of Ethnic Differences

African-Americans were oversampled (i.e., 24% of the current sample) with the intention of providing data to assess for variation due to ethnicity. A series of one-way ANOVAs, with Tukey post-hoc comparisons, were conducted on the *DSM-IV-TR* and FFM assessments. Overall, there was little to no effect of ethnicity.

The one-way ANOVAs on therapists' FFMRF and DSMRF assessments did not demonstrate any significant differences based on the ethnicity of the client. The results of these analyses did not support the presence of ethnic differences in the assessment of any personality disorder. Furthermore, no significant differences were obtained for the same analyses of the therapists' ratings for the five domains or any facet of the FFM. Similarly, no significant differences were noted for the informant report assessments of the DSMRF ratings of the *DSM-IV-TR* personality disorders or the FFMRF facet ratings.

A series of ANOVAs were also conducted to probe for ethnic differences in the PDI-IV interview assessments of the *DSM-IV-TR* PDs and the SIFFM assessments of the domains and facets of the FFM. The only significant ethnic difference in the PDI-IV assessment occurred for avoidant PD ($F [2, 79] = 3.56, p = .033$), for which post hoc tests revealed that Caucasians received significantly higher scores than African-Americans. No significant differences were noted for the SIFFM assessment of the FFM domains, but the scores on the extraversion facet of assertiveness were found to be significantly lower ($F [2, 79] = 4.90, p = .010$) for Caucasians than for African-Americans.

None of these differences was replicated with the self-report assessments obtained by the SNAP and the NEO PI-R. However, a significant difference was noted for the NEO PI-R assessment of the neuroticism facet of depressiveness ($F [2, 81]$ where Caucasians obtained higher scores than African-Americans).

Table 3.1

Descriptive Statistics for the Five-Factor Model Domains and DSM-IV-TR Personality Disorders

	Self-report		Interview		Informant		Therapist		Informant	
	NEO PI-R		SIFFM		NEO PI-R		FFMRF		FFMRF	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Neuroticism	106.3	21.5	24.0	9.4	99.8	18.5	3.2	0.6	2.7	0.8
Extraversion	102.7	17.6	28.2	9.3	109.8	21.7	3.2	0.6	3.4	0.7
Openness	104.6	18.5	24.1	6.3	104.0	14.2	3.2	0.5	3.1	0.5
Agreeableness	103.9	20.4	26.6	7.8	104.1	22.6	3.1	0.7	3.5	0.7
Conscientiousness	95.9	21.8	27.2	9.5	107.3	26.5	3.3	0.6	3.4	0.8
	Self-report		Interview		Informant		Therapist			
	SNAP		PDI-IV		DSMRF		DSMRF			
	Mean	SD	Mean	SD	Mean	SD	Mean	SD		
Paranoid	13.3	4.8	1.6	1.4	2.5	1.1	1.7	1.0		
Schizoid	6.9	2.9	0.6	0.9	2.4	1.2	1.3	0.5		
Schizotypal	11.7	3.9	1.2	1.4	2.4	1.2	1.3	0.6		
Antisocial	16.4	6.6	4.5	1.9	1.9	1.0	1.6	1.0		
Borderline	14.0	4.9	3.0	2.2	2.5	1.3	2.3	1.5		
Histrionic	10.4	3.8	1.9	1.6	2.5	1.3	1.6	1.0		
Narcissistic	9.7	3.7	1.0	1.1	2.2	1.1	1.4	0.7		
Avoidant	10.1	3.4	2.0	1.9	2.9	1.2	1.9	1.2		
Dependent	10.6	4.7	2.2	1.9	2.4	1.2	1.7	1.0		
Obsessive	11.5	3.2	1.4	1.3	2.5	1.2	1.6	0.9		

Note: Mean = the mean value for each FFM domain or *DSM* PD; SD = standard deviation.

Convergent and Discriminant Validity

The FFM and *DSM-IV-TR* provide comparable hierarchical models of personality description. At the highest levels are the five domains of the FFM (i.e., neuroticism, extraversion, openness, agreeableness, and conscientiousness) and the three clusters of the *DSM-IV-TR* (i.e., odd-eccentric, dramatic-emotional, and anxious-fearful). Beneath this broad level of description are the 30 facets of the FFM (e.g., anxiousness and mistrust) and the ten personality disorders (e.g., avoidant and paranoid). Comparisons are perhaps most appropriate at comparable levels of the hierarchy (e.g., domains of the FFM versus clusters of the *DSM-IV-TR*) but comparisons are at times provided across levels (e.g., domains of the FFM versus the personality disorders of the *DSM-IV-TR*).

In order to provide an overall comparison of the convergent and discriminant validity of the FFM and *DSM-IV-TR* assessments the validity correlations were first averaged across all four assessment methodologies. For example, the convergent validity correlation for the NEO PI-R self-report assessment of neuroticism was first obtained by averaging its convergent validity coefficients with the SIFFM, therapist FFMRF, and informant FFMRF assessments of neuroticism (the informant NEO PI-R assessments were excluded for this purpose). The overall FFM convergent validity was then obtained by averaging these values across all five domains of the FFM. The overall discriminant validity coefficient was similarly obtained by averaging the discriminant validity coefficient of the NEO PI-R self-report assessment of neuroticism with all of the other domains of the FFM as assessed by all methods of assessment, and then averaging this value across the domains.

Table 3.2 provides these omnibus results across the *DSM-IV-TR* cluster and FFM domain assessments and across the *DSM-IV-TR* personality disorder and FFM facet assessments, for each of the four methods of assessment. It is evident from Table 3.2 that convergent validity across the other three methods of assessment was lower for the therapist and informant assessments than for the self-report and interview methods of assessment, for both the *DSM-IV-TR* and FFM. More importantly for the purposes of the current study, convergent validity was consistently higher for the FFM domain assessments than for the *DSM-IV-TR* cluster assessments, across all four methods. This finding still holds if one compares the assessments of the FFM domains with the assessment of the *DSM-IV-TR* personality disorders. However, there is no appreciable difference in convergent validity between the *DSM-IV-TR* and FFM assessments when the FFM was assessed at the level of the 30 facets. On the other hand, the FFM consistently obtained better discriminant validity at both the domain and facet levels across all four methods. In fact, the overall discriminant validity coefficients for the *DSM-IV-TR* clusters were actually higher than the overall convergent validity for both the therapist and informant ratings. This suggests that a given cluster rating by an informant or therapist is likely to relate just as strongly to a measure of a different cluster as it is to another measure of the same cluster.

Table 3.3 provides the averaged convergent validity coefficients and discriminant validity coefficients for the assessment of the three *DSM-IV-TR* clusters and the five FFM domains for each pair-wise method comparison. It is evident from Table 3.3 that the weakest convergent validity across all methods was obtained by the therapist and informant assessments (for both the *DSM-IV-TR* and FFM), and the highest convergent validity was obtained between the self-report and semi-structured interview assessments.

It is also evident from Table 3.3 that the FFM obtained higher convergent and lower discriminant validity coefficients for the domain assessments. In fact, the averaged convergent validity values for the *DSM-IV-TR* odd-eccentric and anxious-fearful clusters were no higher than their discriminant validity coefficients.

It should be noted though that convergent validity for the assessment of the dramatic-emotional cluster was statistically significant (and comparable to the FFM domain assessments) for three of the cross-method comparisons. On the other hand, all but one of the convergent validity coefficients were significant for the agreement between the self-report and informant assessments and for the agreement between the interview and therapist assessments. The most consistent convergent validity was obtained for the assessment of FFM extraversion (including even a significant relationship of the self-report with the therapist assessments), with a mean discriminant validity coefficient of .01.

Table 3.4 provides the convergent and averaged discriminant validity coefficients for the assessment of the 10 *DSM-IV-TR* personality disorders. It is evident from Table 3.4 that the higher convergent validity obtained for the dramatic-emotional personality disorders was due largely to the assessments of the antisocial, borderline, and histrionic personality disorders (the assessment of the histrionic personality disorder even obtained a significant convergence between self-report and therapist). The weakest was obtained for the assessment of the schizoid and schizotypal personality disorders, for which the convergent validity coefficients averaged across all four methods of assessment did not exceed the averaged discriminant validity coefficients.

Table 3.5 provides the convergent and averaged discriminant validity coefficients for the assessment of the 30 facets of the FFM. Statistically significant convergent validity across self-report and interview assessments was obtained for 29 of the 30 FFM facets; the one exception occurred for the FFM assessment of openness to feelings. The mean convergent validity across all methods for the assessment of the 30 FFM facets was comparable to the convergent validity for the assessment of the 10 *DSM-IV-TR* personality disorders (see Table 3.4). Discriminant validity was consistently good across all 30 facets and lower than was obtained for the 10 *DSM-IV-TR* personality disorders.

As is evident from Tables 3.2-3.5, convergent validity was highest across methods for the self-report and semi-structured interview assessments for both the *DSM-IV-TR* and FFM. The weakest cross-method convergent validity was obtained for the assessments provided by the informants and therapists. This could have been due in part to the assessment instruments that were used by the informants and therapists. The informant and therapist assessments of the *DSM-IV-TR* personality disorders and the FFM facets were provided by only one item, in contrast to the multiple-item assessments provided by the NEO PI-R, SNAP, SIFFM, and PDI-IV.

Tables 3.6 and 3.7 provide the convergent and averaged discriminant validity coefficients for the assessment of the FFM domains and facets (respectively) when the informants used the Form R of the NEO PI-R (rather than the FFMRF). It is evident from Tables 3.6 and 3.7 that convergent validity increases appreciably when the more psychometrically robust Form R of the NEO PI-R is administered. For example, mean convergent validity for the self-report and informant assessments of the FFM domains increased from .35 to .52, approaching the agreement obtained between the semi-structured interview and self-report inventory assessments. Mean convergent validity for

Table 3.2

Comparison of Convergent and Discriminant Validity Coefficients Across Methods and Models

	Self-Report		Interview		Therapist		Informant	
	Converg.	Discrim.	Converg.	Discrim.	Converg.	Discrim.	Converg.	Discrim.
DSM Clusters	0.21	0.16	0.23	0.16	0.14	0.16	0.16	0.21
FFM Domains	0.38	0.00	0.37	-0.03	0.23	-0.02	0.24	0.01
DSM PDs	0.22	0.10	0.23	0.09	0.14	0.10	0.15	0.15
FFM Facets	0.24	0.00	0.25	-0.01	0.15	-0.01	0.14	0.01

Notes: Converg. = Average convergent validity correlation of all variables from the indicated methodology with variables from all other methodologies; Discrim. = The average discriminant validity correlation of all variables from the indicated methodology with all other variables both within and across methodologies.

Table 3.3

Convergent and Discriminant Validity of the DSM-IV PD Clusters and FFM Domains Across Methodology

<i>DSM-IV-TR</i> Clusters	Self-Report with Interview	Self-Report with Therapist	Self-Report With Informant	Interview with Therapist	Interview with Informant	Therapist with Informant	Mean Convergent	Mean Discriminant
Odd-Eccentric	0.33	-0.05	0.25	0.02	0.10	0.13	0.13	0.17
Dramatic-Emotional	0.40	0.05	0.46	0.42	0.27	0.24	0.31	0.17
Anxious-Fearful	0.26	0.24	0.01	0.28	0.02	-0.03	0.13	0.16
mean	0.33	0.08	0.24	0.24	0.13	0.11	0.19	0.17
median	0.33	0.05	0.25	0.28	0.10	0.13	0.13	0.17
<i>FFM Domains</i>								
Neuroticism	0.64	0.08	0.40	0.28	0.19	0.13	0.29	-0.09
Extraversion	0.62	0.26	0.34	0.43	0.41	0.30	0.39	0.01
Openness	0.53	0.35	0.13	0.42	0.14	0.23	0.30	0.03
Agreeableness	0.54	0.13	0.55	0.35	0.20	0.13	0.31	0.01
Conscientiousness	0.55	0.20	0.34	0.17	0.13	0.02	0.23	0.01
mean	0.58	0.20	0.35	0.33	0.21	0.16	0.31	-0.01
median	0.55	0.20	0.34	0.35	0.19	0.13	0.30	0.01

Notes: Self-report assessed by the SNAP for the DSM and NEO PI-R for the FFM; Interview assessed by the PDI-IV for the DSM and SIFFM for the FFM; Therapist and Informant assessed by the DSM Rating Form and the FFM Rating Form. The first six columns present all possible convergent correlations across each possible comparison. Mean Convergent = the mean convergent correlation across all possible combinations (i.e., the average across the first six columns). Mean Discriminant = The mean correlation of each DSM Cluster or FFM Domain with all same-model discriminant variables within and across methodologies. Those values marked in boldface type indicate correlations significant at $p < .05$.

Table 3.4

Convergent and Discriminant Validity of DSM-IV-TR Personality Disorders Across Methodology

	Self-Report with Interview n = 79	Self-Report with Therapist n = 72	Self-Report with Informant n = 61	Interview with Therapist n = 75	Interview With Informant n = 62	Therapist With Informant n = 59	Mean Convergent	Mean Discriminant
Paranoid	0.39	-0.03	0.25	0.13	0.25	0.13	0.19	0.15
Schizoid	0.19	-0.09	0.13	-0.05	-0.10	0.20	0.05	0.06
Schizotypal	0.28	-0.11	0.09	0.22	-0.02	-0.15	0.05	0.09
Antisocial	0.43	0.05	0.40	0.24	0.28	0.12	0.25	0.11
Borderline	0.37	0.11	0.48	0.47	0.21	0.33	0.33	0.19
Histrionic	0.50	0.35	0.33	0.41	0.29	0.19	0.34	0.13
Narcissistic	0.30	0.14	0.26	0.23	-0.02	0.19	0.18	0.11
Avoidant	0.46	0.02	0.13	0.06	0.01	-0.10	0.10	0.09
Dependent	0.41	0.20	0.28	0.29	0.29	-0.10	0.23	0.10
Obsessive	0.23	0.24	-0.12	0.26	-0.16	0.34	0.13	0.07
mean	0.35	0.09	0.22	0.23	0.10	0.12	0.18	0.11
median	0.38	0.08	0.26	0.24	0.11	0.16	0.18	0.10

Notes: Self-Report assessed by the SNAP; Interview assessed by the PDI-IV; Therapist and Informant by the DSM Rating Form. The first six columns present all possible convergent correlations for each personality disorder across each possible comparison. Mean Convergent = the mean convergent correlation across all possible combinations (i.e., the average across the first six columns). Mean Discriminant = The mean correlation of each personality disorder variable with all discriminant variables within and across methodologies. Those values marked in boldface type indicate correlations significant at $p < .05$.

Table 3.5

Convergent and Discriminant Validity of the FFM Facets Across Methodology

	Self-Report with Interview	Self-Report with Therapist	Self-Report with Informant	Interview with Therapist	Interview with Informant	Therapist with Informant	Mean Convergent	Mean Discriminant
Anxiousness(n1)	0.33	0.24	0.16	0.35	0.22	0.08	0.23	-0.03
Angry Hostility(n2)	0.47	0.16	0.25	0.37	0.10	0.16	0.25	-0.06
Depressiveness(n3)	0.60	0.14	0.37	0.16	0.25	0.08	0.27	-0.06
Self-Consciousness(n4)	0.34	-0.04	0.20	0.12	0.18	0.06	0.14	-0.04
Impulsivity(n5)	0.45	0.25	0.19	0.29	0.23	0.21	0.27	-0.03
Vulnerability(n6)	0.44	-0.02	0.29	0.21	0.17	0.23	0.22	-0.05
Warmth(e1)	0.36	0.19	0.16	0.18	0.17	-0.18	0.14	0.05
Gregariousness(e2)	0.49	0.04	0.04	0.15	0.27	0.29	0.21	-0.01
Assertiveness(e3)	0.38	0.15	0.38	0.36	0.38	0.47	0.35	-0.03
Activity(e4)	0.40	0.17	0.28	0.18	0.43	0.21	0.28	0.01
Excitement Seeking(e5)	0.41	0.32	0.18	0.33	0.23	0.26	0.29	-0.02
Positive Emotions(e6)	0.39	0.08	0.21	0.12	0.20	-0.12	0.15	0.02
Fantasy(o1)	0.37	0.19	0.13	0.01	0.13	0.03	0.14	-0.01
Aesthetics(o2)	0.34	0.28	0.09	0.19	0.01	0.32	0.20	0.03
Feelings(o3)	0.13	0.03	0.10	0.16	-0.12	0.12	0.07	0.05
Actions(o4)	0.37	-0.04	-0.08	0.00	0.13	-0.05	0.06	-0.01
Ideas(o5)	0.39	0.20	0.21	0.39	0.25	0.10	0.26	0.01
Values(o6)	0.27	0.35	0.18	0.45	0.08	0.29	0.27	0.02
Trust(a1)	0.43	0.26	0.10	0.19	0.02	0.19	0.20	0.02
Straightforwardness(a2)	0.39	0.03	0.25	0.29	0.03	0.01	0.17	0.00
Altruism(a3)	0.39	0.01	0.29	0.10	0.16	0.04	0.17	0.02
Compliance(a4)	0.38	0.18	0.44	0.31	0.08	0.20	0.27	-0.01
Modesty(a5)	0.44	0.03	0.08	0.20	0.10	-0.06	0.13	-0.03

Table 3.5 continued

Tender-mindedness(a6)	0.27	-0.04	0.40	0.21	0.14	-0.03	0.16	0.02
Competence(C1)	0.36	0.22	0.15	0.09	-0.07	0.01	0.13	0.03
Order(c2)	0.58	0.08	0.29	0.17	0.18	-0.10	0.20	0.02
Dutifulness(c3)	0.31	0.15	0.24	0.08	0.13	-0.15	0.13	-0.01
Achievement(c4)	0.45	0.27	0.24	0.34	0.09	0.05	0.24	0.00
Self-discipline(c5)	0.40	0.04	0.18	0.15	0.00	-0.11	0.11	0.00
Deliberation(c6)	0.37	0.17	0.05	0.15	0.03	0.11	0.15	-0.01
Mean	0.39	0.14	0.20	0.21	0.14	0.09	0.19	0.00
Median	0.39	0.16	0.19	0.19	0.14	0.08	0.20	-0.01

Notes: Self-report assessed by the NEO PI-R; Interview assessed by the SIFFM; Therapist and Informant assessed by the FFMRF. The first six columns present all possible convergent correlations for each FFM facets across each possible comparison. Mean Convergent = the mean convergent correlation across all possible combinations (i.e., the average across the first six columns). Mean Discriminant = The mean correlation of each FFM facet with all discriminant variables outside its domain, both within and across methodologies. Those values marked in boldface type indicate correlations significant at $p < .05$.

the interview and informant assessments increased from .21 to .33. Convergent validity for the informant and therapist assessments though remained low and in fact decreased from .16 to .11.

Table 3.8 provides the convergent validity coefficients for the within-method comparison of the informant FFMRF and the informant NEO PI-R assessments. It is evident from Table 3.8 that convergent validity for the FFMRF rating form was good when the evaluation is confined to the same method of assessment. This was particularly true for the domains and facets of neuroticism, conscientiousness, agreeableness, and extraversion as the domain scores and a majority of the facet correlations were statistically significant. However, the assessment of the domain of openness did not converge well and only one of its facet scores correlated significantly.

Section Four: Discussion

As suggested by the *DSM-V* Research Planning Nomenclature Work Group, the current categorical model of personality disorders needs to be compared to alternative dimensional models. In the current study, these models were compared on an issue that is central to the validity of the diagnostic system. Namely, the convergent and discriminant validity of assessments of the *DSM-IV-TR* and the FFM were compared across (a) clinicians' descriptions of a client, (b) self-report inventory, (c) semi-structured interview, and (d) informant report. This study builds upon previous research, but provides the first same-sample data on the convergent and discriminant validity across all four assessment methods, not only for the FFM, but also for the *DSM*.

The convergent validity values obtained in the current study compare well with previously published results. Two previous studies have directly compared the *DSM* and the FFM across methodologies, although these were confined only a comparison of self-report with informant report. Ball and colleagues (2001) found the mean convergence across self and informant report for the FFM was .31, while the convergence for the *DSM* was .29. The results from the current study were more favorable for the FFM, as the mean convergence was .52 (.34 when using the FFMRF), versus only .26 for the *DSM*. Miller and colleagues (2005) also provided a direct comparison of the convergence of self and informant ratings of the *DSM* and FFM. They reported somewhat higher values than Ball et al. (2001), with the median convergence for the FFM at .43, which was likely due to their use of the NEO PI rather than the abbreviated NEO FFI. However, the median convergent value obtained for the *DSM* in Miller et al. was .51, which is notably higher than was obtained in the current study. This difference also appears to be attributable to the particular instruments that were used. While the current study utilized only the single-item DSMRF to obtain informant ratings of the *DSM* PDs, the informant ratings of Miller and colleagues were obtained via a more extensive inventory combined with an interview (Pilkonis et al., 1995).

Perhaps more fruitful comparisons for the results of the current study are summaries of the self to informant relationship across multiple studies. McCrae and colleagues (2004) reported that the median convergence between self and informant reports of the FFM, across 29 samples, was .43. In contrast, the current study, found a median correlation of .54 between the self-report NEO PI-R and the informant version of the NEO PI-R. Klonsky and colleagues (2002) summarized 17 studies that provided the correlation between these methods for the *DSM* PDs and found a median value of .36. This value is somewhat higher than the .26 obtained within the current study, but this appears to again be related to the use of the brief DSMRF to collect informant ratings.

Relatively little data have previously been provided on the relationships among the other methods. A few studies have reported on the relationship between self-report and clinician ratings of the *DSM* PDs (Bronisch, Flett, Garcia-Borreguero, & Wolf, 1993; Chick, Sheaffer, Goggin, & Sison, 1993; Hyler et al., 1989; Rossi, Hauben, Van Den Brande, & Sloore, 2003) and these results have suggested little convergence. Median convergence was only .08 in Hyler et al. (1989) and .12 in Bronisch et al. (1993), when comparing clinician ratings with the Personality Diagnostic Questionnaire (Bagby & Farvolden, 2004). However, comparisons of these results with the current study are limited by the fact that they were reporting kappa values concerning diagnostic agreement. Convergence though was not much better in Rossi et al. (2003) and Chick et

Table 3.6

Convergent and Discriminant Validity of the FFM Domains Across Methodology Using Informant NEO PI-R

	Self-Report with Interview	Self-Report with Therapist	Self-Report with Informant	Interview with Therapist	Interview with Informant	Therapist with Informant	Mean Convergent	Mean Discriminant
Neuroticism	0.64	0.08	0.46	0.28	0.31	0.09	0.31	-0.08
Extraversion	0.62	0.26	0.54	0.43	0.48	0.29	0.44	0.03
Openness	0.53	0.35	0.67	0.42	0.40	0.23	0.43	0.03
Agreeableness	0.54	0.13	0.61	0.35	0.30	0.11	0.34	0.02
Conscientiousness	0.55	0.20	0.33	0.17	0.15	-0.14	0.21	-0.01
Mean	0.58	0.20	0.52	0.33	0.33	0.11	0.35	0.00
median	0.55	0.20	0.54	0.35	0.31	0.11	0.34	0.02

Notes: Self-report assessed by the NEO PI-R; Interview assessed by the SIFFM; Therapist assessed by the FFMRF; Informant assessed by the NEO PI-R. The first six columns present all possible convergent correlations for each FFM domain across each possible comparison. Mean Convergent = the mean convergent correlation across all possible combinations (i.e., the average across the first six columns). Mean Discriminant = The mean correlation of each FFM domain with all discriminant variables within and across methodologies. Those values marked in boldface type indicate correlations significant at $p < .05$.

Table 3.7

Correlations of Clinicians' FFM Facet Ratings with Other Methods Using Informant NEO PI-R

	Self-Report with Interview	Self-Report With Therapist	Self-Report with Informant	Interview with Therapist	Interview with Informant	Therapist With Informant	Mean Convergent	Mean Discriminant
Anxiousness(n1)	0.33	0.24	0.17	0.35	0.23	0.16	0.24	-0.01
Angry Hostility(n2)	0.47	0.16	0.44	0.37	0.34	0.43	0.37	-0.07
Depressiveness(n3)	0.60	0.14	0.45	0.16	0.25	-0.02	0.26	-0.03
Self-Consciousness(n4)	0.34	-0.04	0.33	0.12	0.16	0.20	0.18	-0.04
Impulsivity(n5)	0.45	0.25	0.32	0.29	0.24	0.17	0.29	0.01
Vulnerability(n6)	0.44	-0.02	0.40	0.21	0.24	-0.02	0.21	-0.06
Warmth(e1)	0.36	0.19	0.49	0.18	0.40	0.07	0.28	0.06
Gregariousness(e2)	0.49	0.04	0.31	0.15	0.48	0.19	0.28	0.00
Assertiveness(e3)	0.38	0.15	0.29	0.36	0.21	0.44	0.31	0.00
Activity(e4)	0.40	0.17	0.54	0.18	0.18	0.33	0.30	0.01
Excitement Seeking(e5)	0.41	0.32	0.49	0.33	0.36	0.30	0.37	-0.01
Positive Emotions(e6)	0.39	0.08	0.37	0.12	0.40	0.03	0.23	0.04
Fantasy(o1)	0.37	0.19	0.50	0.01	0.23	0.23	0.25	0.02
Aesthetics(o2)	0.34	0.28	0.53	0.19	0.21	0.10	0.28	0.04
Feelings(o3)	0.13	0.03	0.32	0.16	0.11	0.04	0.13	0.04
Actions(o4)	0.37	-0.04	0.22	0.00	0.29	0.01	0.14	-0.01
Ideas(o5)	0.39	0.20	0.42	0.39	0.24	0.22	0.31	0.02
Values(o6)	0.27	0.35	0.23	0.45	0.33	0.24	0.31	0.03
Trust(a1)	0.43	0.26	0.48	0.19	0.33	0.43	0.35	0.04
Straightforwardness(a2)	0.39	0.03	0.41	0.29	0.24	0.00	0.23	0.00
Altruism(a3)	0.39	0.01	0.48	0.10	0.11	-0.13	0.16	0.04
Compliance(a4)	0.38	0.18	0.57	0.31	0.31	0.16	0.32	-0.02
Modesty(a5)	0.44	0.03	0.35	0.20	0.31	-0.02	0.22	-0.02

Table 3.7 continued

Tender-mindedness(a6)	0.27	-0.04	0.32	0.21	0.21	0.05	0.17	0.03
Competence(C1)	0.36	0.22	0.35	0.09	0.12	-0.05	0.18	0.02
Order(c2)	0.58	0.08	0.31	0.17	0.04	-0.21	0.16	0.00
Dutifulness(c3)	0.31	0.15	0.37	0.08	0.12	-0.16	0.15	-0.02
Achievement(c4)	0.45	0.27	0.26	0.34	0.23	0.02	0.26	0.00
Self-discipline(c5)	0.40	0.04	0.34	0.15	0.21	0.09	0.20	0.01
Deliberation(c6)	0.37	0.17	0.39	0.15	0.19	0.21	0.25	-0.01
Mean	0.39	0.14	0.38	0.21	0.24	0.12	0.25	0.00
Median	0.39	0.16	0.37	0.19	0.24	0.10	0.25	0.00

Notes: Self-report assessed by the NEO PI-R; Interview assessed by the SIFFM; Therapist and Informant assessed by the FFMRF. The first six columns present all possible convergent correlations for each FFM facets across each possible comparison. Mean Convergent = the mean convergent correlation across all possible combinations (i.e., the average across the first six columns). Mean Discriminant = The mean correlation of each FFM facet with all discriminant variables outside its domain, both within and across methodologies. Those values marked in boldface type indicate correlations significant at $p < .05$.

Table 3.8

Correlations between Informant NEO PI-R and FFMRF

Neuroticism	.62
Extraversion	.56
Openness	.15
Agreeableness	.57
Conscientiousness	.63
Anxiousness(n1)	.27
Angry Hostility(n2)	.36
Depressiveness(n3)	.56
Self-Consciousness(n4)	.47
Impulsivity(n5)	.40
Vulnerability(n6)	.35
Warmth(e1)	.51
Gregariousness(e2)	.41
Assertiveness(e3)	.42
Activity(e4)	.29
Excitement Seeking(e5)	.24
Positive Emotions(e6)	.32
Fantasy(o1)	.34
Aesthetics(o2)	.16
Feelings(o3)	.07
Actions(o4)	.23
Ideas(o5)	-.14
Values(o6)	.26
Trust(a1)	.21
Straightforwardness(a2)	.39
Altruism(a3)	.22
Compliance(a4)	.44
Modesty(a5)	.34
Tender-mindedness(a6)	.50
Competence(C1)	.40
Order(c2)	.39
Dutifulness(c3)	.45
Achievement(c4)	.36
Self-discipline(c5)	.37
Deliberation(c6)	.46

Note: Values presented are Pearson correlations between the informant NEO PI-R and informant FFMRF. Values marked in bold are significant at $p < .05$.

al. (1993) who reported the correlation of dimensional ratings with the Millon Clinical Multiaxial Inventory (MCMI; Millon, Millon, & Davis, 1997). Median convergence was only .05 in Chick et al. (1993) and .20 in Rossi et al. (1993), which are quite similar to the median value of .08 with the SNAP in the current study.

The relationship that has been most heavily studied is that between self-report and interview assessments of the *DSM* personality disorders. Widiger and Boyd (in press) summarized the results from 25 studies and found the median convergent coefficient between dimensional assessments of these methodologies was .38. The median value for this relationship within the current study was, in fact, also .38. In sum, the results of the current study do appear to be consistent with previously published studies.

The primary focus of the current study though concerned a direct comparison of the FFM and *DSM-IV-TR* constructs with respect to their convergent and discriminant validity across four different methods of assessment. The inclusion of these four methods allows for omnibus comparisons of the overall convergent and discriminant validity of the FFM and *DSM-IV-TR* models that is independent of assessment method. It is evident from these comparisons that the FFM obtains considerably better discriminant validity than the *DSM-IV-TR*. With respect to a comparison of the assessment of the five FFM domains, median discriminant validity was .01, whereas for the *DSM-IV-TR* clusters it was .17. These findings are consistent with a recent systematic and comprehensive review of the discriminant validity of the three *DSM-IV-TR* clusters provided by Sheets and Craighead (2007). They indicated that a fairly consistent finding is that the three cluster organization of the personality disorders in *DSM-IV-TR* is not consistent with the covariation among the disorders. Many of the personality disorders covary across the clusters as much as they covary within a cluster. "Overall, empirical investigations of the structure of personality pathology have failed to replicate the Axis II organization" (Sheets & Craighead, 2007, p. 86). In one respect, this should not perhaps be surprising, as the three cluster organization "does not arise from any particular evidence" (Frances, 1980, p. 1052). It was largely an impressionistic organization serving more as a mnemonic device than representing any particular empirical or theoretical perspective (Millon, 1981). Nevertheless, quite a few studies are being conducted with respect to the *DSM-IV-TR* clusters (e.g., Ehrensaft, Cohen, & Johnson, 2006; Lenzenweger & Willet, 2007).

It might be considered inappropriate to compare the discriminant validity of the assessment of the five domains of the FFM with the assessment of the three clusters of *DSM-IV-TR*, given the absence of a strong theoretical or empirical foundation for the cluster arrangement. Discriminant validity does improve with the assessment of the 10 personality disorders, dropping from .17 to .11. However, the median discriminant validity of the FFM did not worsen for the 30 FFM facets, maintaining a median value of .00.

The improvement in discriminant validity obtained for the assessment of the FFM domains and facets is consistent with the fact that this model of classification was derived in large part through factor analyses of personality traits and trait terms that places considerably more emphasis on identifying empirically (and conceptually) distinct constructs (McCrae & Costa, 1999). In contrast, inadequate discriminant validity has been a longstanding problem for the psychiatric nomenclature (Bornstein, 1998; Clark, 2007; Trull & Durrett, 2005; Widiger & Trull, 2007). This is not a trivial issue, as a

considerable amount of time and effort are spent in the development and application of the diagnostic manual on differential diagnosis (Frances, First, & Pincus, 1995). In fact, much of the diagnostic co-occurrence among the *DSM-IV-TR* personality disorders can perhaps be explained in large part by different diagnoses sharing the same FFM facets (Lynam & Widiger, 2001).

Skodol et al. (1991) reported on the convergent validity of the International Personality Disorder Examination (IPDE; Loranger, 1999) and the Structured Clinical Interview for *DSM* Personality Disorders (SCID-II; First, Gibbon, Williams, Spitzer, & Benjamin, 1997) assessments of the *DSM-III-R* (APA, 1987) personality disorders. They reported good convergent validity when the constructs were scored as a continuous variable but not when the constructs were scored as a categorical variable. They did not discuss, however, the instruments' discriminant validity. Instead, Oldham et al. (1992) subsequently used the same data to report an excessive diagnostic co-occurrence among the personality disorder diagnostic categories that was replicated across both instruments, and they concluded that much of this co-occurrence was due to overlap among the disorders' criterion sets rather than flaws or inadequacies within the IPDE or SCID-II assessment instruments.

In fact, it is possible that a valid assessment of some *DSM-IV-TR* personality disorders should obtain weak discriminant validity with respect to near neighbor diagnostic constructs, despite the assumption that they represent qualitatively distinct conditions and the emphasis provided within the diagnostic manual on differential diagnosis. For example, perhaps a valid measure of antisocial personality disorder should correlate significantly with a valid measure of narcissistic personality disorder, given that they may both involve lack of empathy, exploitation of others, and arrogance (Widiger, 2005). In sum, the scales of some personality disorder self-report inventories, such as the MMPI-2 (Morey, Waugh, & Blashfield, 1985; Somwaru & Ben-Porath, 1995) and the MCMI-III (Millon et al., 1997) overlap substantially in order to compel the obtainment of a co-occurrence considered to be consistent with theoretical expectations.

The assessment of the FFM also demonstrated better convergent validity in the current study. Statistically significant convergent validity of self-report inventory with semi-structured interview assessments was obtained for both the three clusters of the *DSM-IV-TR* and the five domains of the FFM. However, convergent validity was higher for the domain assessments than for the cluster assessments. In addition, statistically significant convergent validity of self-report inventory with informant assessments and semi-structured interview with therapist assessments was obtained for four of the five domains of the FFM.

Convergent validity was similar when comparing the assessments of the 10 *DSM-IV-TR* personality disorders with the 30 FFM facets. Statistically significant convergent validity for the self-report inventory with semi-structured interview assessments was obtained for 9 of the 10 personality disorders and 29 of the 30 facets. The magnitudes of the convergent validity coefficients were comparable for the assessment of the 30 FFM facets and 10 *DSM-IV-TR* personality disorders.

The explanation for why the assessment of the FFM domains obtained better convergent validity than the assessment of the *DSM-IV-TR* clusters is not entirely clear. It could reflect that the FFM constructs are more straightforward, understandable, and coherent (unidimensional) than the clinically complex and heterogeneous *DSM-IV-TR*

diagnostic constructs (Shedler & Westen, 2004; Widiger & Trull, 2007). However, one might then have expected comparable improvements in the assessment of the 30 FFM facets in comparison to the *DSM-IV-TR* personality disorders. It is perhaps worth noting in this regard, however, that the convergent validity of the assessment of the *DSM-IV-TR* personality disorders, averaged across all methods, was quite low and no higher than the discriminant validity in three instances (schizoid, schizotypal, and avoidant), whereas the averaged convergent validity was always higher than the discriminant validity for the assessment of the 30 FFM facets.

An additional finding of the current study was the relatively weak cross-method convergent validity for the therapist ratings. This finding was consistent with prior research, the results of which have generally been interpreted as indicating that clinicians perceive and describe their clients' personality traits and disorders differently than the clients describe themselves or, alternatively, suggesting weak validity for the respective self-report inventory that was administered to the client (e.g., Bronisch et al., 1993; Chick et al., 1993; Hyler et al., 1989; Rossi, et al., 2003). However, an implication of the findings of the current study is that the weak cross-method results may actually reflect weak validity for the therapist assessments.

The single-item assessment of the FFM facets have empirical support when the comparison is within-method, as indicated in Mullis-Sweatt et al. (2006) and by the convergence of the informant FFMRF and Form R NEO PI-R assessments in the current study. However, it may be unrealistic to expect that single item assessments would produce valid assessments cross-method (Klein, 2003; Gosling, Rentfrow, & Swann, 2003; Klonsky, Oltmanns, & Turkheimer, 2002; Ready & Clark, 2002). In prior studies of the cross-method convergent validity of therapist assessments of the *DSM* personality disorders, the therapist assessments have been confined to single item assessments, comparable to the method used in the current study (Bronisch et al., 1993; Chick et al., 1993; Hyler et al., 1989; Rossi, et al., 2003). Before it is concluded that therapists do, in fact, have markedly different perceptions of their clients' personalities or personality disorders than the clients' view themselves, it will be important to have the therapists' assessments be obtained with comparably valid methods.

The methodology of the current study was already somewhat labor intensive, with the completion of self-report inventories by the patients, semi-structured interviews of patients, therapist ratings, and informant ratings, for both the *DSM-IV-TR* and FFM nomenclatures (along with the completion of Form R by the informants). Westen and colleagues have obtained extensive therapist ratings of clients with respect to the 200 items of the SWAP-200 (Westen & Muderrisoglu, 2006), although this has typically required sizeable financial compensation for their time and effort. The cross-method comparisons of SWAP-200 assessments (e.g., comparison to semi-structured interview or self-report inventories) have been limited and have produced mixed results (i.e., Loffler-Statska et al., 2007; Marin-Avellan, McGauley, Campbell & Fonagy, 2005). It might be difficult to obtain therapist completions of Form R of the NEO PI-R and an informant version of (for instance) the SNAP (Clark et al., in press). However, given the substantial improvement in the convergent validity of the informant assessments with their completion of Form R of the NEO PI-R, it would be informative for future research to attempt to obtain comparable assessments by clinicians.

Limitations

A limitation of the current study was the confinement of the sample to females. There is perhaps no reason to expect significant differences in convergent validity in the assessment of the FFM or the *DSM-IV-TR* across gender (Costa & McCrae, 1992; Morey, Warner, Boggs, 2002), but the current sample did not obtain an even distribution of personality disorder symptomatology due in part, perhaps, to the confinement of a female sample. The participants were characterized primarily by antisocial and borderline personality disorder symptomatology, consistent with the sampling of a female substance-abusing population. There was a more restrictive range of schizoid symptomatology, and perhaps schizotypal, narcissistic, and obsessive-compulsive symptomatology (as assessed by the PDI-IV semi-structured interview). The relatively weaker convergent validity obtained for the schizoid and schizotypal personality disorders could be due in part to this restriction in range. In sum, it would be useful for future studies to sample a broader and more representative range of personality disorder symptomatology, and certainly to include male as well as female participants.

Another limitation to the current study is the confinement of the comparison with the *DSM-IV-TR* exclusively to the FFM. There are, of course, several other dimensional models that have been proposed as alternatives to the current *DSM-IV-TR* (please see Widiger & Simonsen [2005] for a complete listing and recapitulation of these alternative models). While it does appear likely that the other dimensional models may also share the advantage of increased discriminant validity, relative to the current *DSM-IV-TR* model, this is ultimately an empirical question that can and should be tested. Future research that extends the current study to compare the *DSM-IV-TR* to one or more of these alternative models would be quite helpful in clarifying the advantages and disadvantages of shifting to a dimensional system in some future diagnostic manual. One obstacle to including additional dimensional models in the current study was the logistics and feasibility of including another model within the assessment battery. Doing so would further increase demands on each individual who participated. It was felt that the current protocol was already stretching the bounds of feasibility and the addition of another model might negatively impact the rate of participation. A second obstacle to including additional models is the paucity of instruments to assess them via different methods. While many of the alternative dimensional models do have a corresponding self-report instrument, very few (if any) have a standardized informant or a semi-structured interview assessment. Thus, the inclusion of the additional models would necessitate the adaptation of self-report instruments to be completed by the informants and therapists or the development of single-page instruments.

Conclusions

A fundamental test of the validity of any clinical nomenclature is the agreement of descriptions across various assessment methodologies (Blackler & Endicott, 2000). In addition, there are repeated calls for direct comparisons of alternative dimensional models of personality disorder with the *DSM-IV-TR* (Clark, 2007; Rounsaville et al., 2002). Considering the current push towards modifying, or potentially replacing, the current categorical model of the *DSM-IV-TR* with an alternative, dimensional model, it seems crucial to compare these models in terms of their convergent and discriminant validity, particularly across methods. The current study provided the first such head-to-head test, by assessing within a clinical sample both the *DSM-IV-TR* and the FFM via

four primary assessment methods (i.e. self-report, informant-report, clinician rating, and semi-structured interview). The results indicated that the FFM had an appreciable advantage over the *DSM-IV-TR* in terms of discriminant validity and, at the domain level, convergent validity. However, cross-method assessments involving therapists and informants were limited by the administration of single-item assessment instruments, and it would be informative for future research to obtain more extensive assessments of both the *DSM-IV-TR* and the FFM (as well as other alternative dimensional models) by therapists and informants.

Appendix A: Therapist FFM Rating Form

Please describe your client on the following 30 traits, where 1 is extremely low (i.e., extremely lower than the average person), 2 is low, 3 is neither high nor low (i.e., does not differ from the average person), 4 is high and 5 is extremely high. Use any number from 1 to 5. Please provide a rating for all 30 traits.

For example on the first trait (anxiousness), a score of 1 would indicate that the client is extremely low in anxiousness (i.e., relaxed, unconcerned, cool). A score of 2 would indicate that the client is low in anxiousness (lower than the average person, but not extremely low). A score of 5 would indicate that the client is extremely high in anxiousness (i.e., fearful, apprehensive); a score of 4 would indicate the client is higher than the average person in anxiousness, but not extremely high. A score of 3 would indicate that the client is neither high nor low in anxiousness (does not differ from the average person) or that you are unable to decide. Circle the number that applies to the client for each of the 30 traits.

5= Extremely high 4= High 3= Neither high nor low 2= Low 1=Extremely Low

Neuroticism versus Emotional Stability:

1. Anxiousness (fearful, apprehensive)	5	4	3	2	1	(relaxed, unconcerned, cool)
2. Angry Hostility (angry, bitter)	5	4	3	2	1	(even-tempered)
3. Depressiveness (pessimistic, glum)	5	4	3	2	1	(optimistic)
4. Self-consciousness (timid, embarrassed)	5	4	3	2	1	(self-assured, glib, shameless)
5. Impulsivity (tempted, urgency)	5	4	3	2	1	(controlled, restrained)
6. Vulnerability (helpless, fragile)	5	4	3	2	1	(clear-thinking, fearless, unflappable)

Extraversion versus Introversion:

7. Warmth (cordial, affectionate, attached)	5	4	3	2	1	(cold, aloof, indifferent)
8. Gregariousness (sociable, outgoing)	5	4	3	2	1	(withdrawn, isolated)
9. Assertiveness (dominant, forceful)	5	4	3	2	1	(unassuming, quiet, resigned)
10. Activity (vigorous, energetic, active)	5	4	3	2	1	(passive, lethargic)
11. Excitement-Seeking (reckless, daring)	5	4	3	2	1	(cautious, monotonous, dull)
12. Positive Emotions (high-spirited)	5	4	3	2	1	(placid, anhedonic)

Openness versus Closedness to one's own Experience:

13. Fantasy (dreamer, unrealistic, imaginative)	5	4	3	2	1	(practical, concrete)
14. Aesthetics (aberrant interests, aesthetic)	5	4	3	2	1	(uninvolved, no aesthetic interests)
15. Feelings (self-aware)	5	4	3	2	1	(constricted, unaware, alexythymic)
16. Actions (unconventional, eccentric)	5	4	3	2	1	(routine, predictable, habitual, stubborn)
17. Ideas (strange, odd, peculiar, creative)	5	4	3	2	1	(pragmatic, rigid)
18. Values (permissive, broad-minded)	5	4	3	2	1	(traditional, inflexible, dogmatic)

Agreeableness versus Antagonism:

19. Trust (gullible, naïve, trusting)	5	4	3	2	1	(skeptical, cynical, suspicious, paranoid)
20. Straightforwardness (confiding, honest)	5	4	3	2	1	(cunning, manipulative, deceptive)
21. Altruism (sacrificial, giving)	5	4	3	2	1	(stingy, selfish, greedy, exploitative)
22. Compliance (docile, cooperative)	5	4	3	2	1	(oppositional, combative, aggressive)
23. Modesty (mEEK, self-effacing, humble)	5	4	3	2	1	(confident, boastful, arrogant)
24. Tender-Mindedness (soft, empathetic)	5	4	3	2	1	(tough, callous, ruthless)

Conscientiousness versus Undependability:

25. Competence (perfectionistic, efficient)	5	4	3	2	1	(lax, negligent)
26. Order (ordered, methodical, organized)	5	4	3	2	1	(haphazard, disorganized, sloppy)
27. Dutifulness (rigid, reliable, dependable)	5	4	3	2	1	(casual, undependable, unethical)
28. Achievement (workaholic, ambitious)	5	4	3	2	1	(aimless, desultory)
29. Self-Discipline (dogged, devoted)	5	4	3	2	1	(hedonistic, negligent)
30. Deliberation (cautious, ruminative, reflective)	5	4	3	2	1	(hasty, careless, rash)

Appendix B: Therapist DSM-IV Rating Form

Please describe the client on each of the following 10 DSM-IV personality disorders, where 1 is absent (i.e., no diagnostic criteria), 2 is sub-threshold, 3 is threshold, 4 is moderate and 5 is prototypic (i.e., all of the diagnostic criteria). Use any number from 1-5. Please provide a rating for all 10 diagnoses.

For example, on the first disorder, Paranoid Personality Disorder, a score of 1 would indicate that the client does not have any of the DSM-IV criteria for Paranoid PD. A score of 5 would indicate that the client has all of the DSM-IV criteria for Paranoid PD; a score of 4 would indicate that the client has a majority of the diagnostic criteria. A score of 3 would indicate that the client has the minimum number of criteria necessary for the diagnosis; a score of 2 would indicate that the client has only some of the criteria for Paranoid PD. Circle the number that applies for each of the 10 diagnoses.

A. Ratings of each Personality Disorder

5= Prototypic 4= Moderate 3= Threshold 2= Subthreshold 1= Absent

1. Paranoid Personality Disorder- pattern of distrust and suspiciousness such that others' motives are interpreted as malevolent.

5 4 3 2 1

2. Schizoid Personality Disorder- pattern of detachment from social relationships and a restricted range of emotional expression.

5 4 3 2 1

3. Schizotypal Personality Disorder- pattern of acute discomfort in close relationships, cognitive/perceptual distortions, and behavioral eccentricities.

5 4 3 2 1

4. Antisocial Personality Disorder- pattern of disregard for and violation of the rights of others.

5 4 3 2 1

5. Borderline Personality Disorder- pattern of instability in personal relationships, self-image, and affects, and marked impulsivity.

5 4 3 2 1

6. Histrionic Personality Disorder- pattern of excessive emotionality and attention seeking.

5 4 3 2 1

7. Narcissistic Personality Disorder- pattern of grandiosity, need for admiration, and lack of empathy.

5 4 3 2 1

8. Avoidant Personality Disorder- pattern of social inhibition, feelings of inadequacy, and hypersensitivity to negative evaluation.

5 4 3 2 1

9. Dependent Personality Disorder- pattern of submissive and clinging behavior related to an excessive need to be taken care of.

5 4 3 2 1

10. Obsessive-Compulsive Personality Disorder- pattern of preoccupation with orderliness, perfectionism, and control.

5 4 3 2 1

B. Final DSM-IV Personality Disorder Diagnosis

1. One or more of the above 10 options
2. Personality disorder not otherwise specified
3. No personality disorder diagnosis.

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