Five-Factor Model of Personality Disorder: A Proposal for DSM-V

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Key Words

personality, DSM-IV, diagnosis, dimensional, classification

Abstract

The predominant dimensional model of general personality structure within psychology is the five-factor model (FFM). Research indicates that the personality disorders of the American Psychiatric Association's diagnostic manual can be understood as maladaptive variants of the domains and facets of the FFM. The current review provides a proposal for the classification of personality disorder from the perspective of the FFM. Discussed as well are implications and issues associated with an FFM of personality disorder, including the integration of a psychiatric nomenclature with general personality structure, the inclusion of a domain of openness to experience, the identification of problems in living associated with maladaptive personality traits, the setting of a diagnostic threshold, prototypal matching, feasibility, and clinical utility.

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INTRODUCTION

The question of whether personality disorders are discrete clinical conditions or arbitrary distinctions along dimensions of general personality functioning has been a longstanding issue. Proposals for a dimensional model have been made throughout the history of the American Psychiatric Association's (APA's) *Diagnostic and Statistical Manual of Mental Disorders* (DSM) (Widiger & Simonsen 2005a). In 1999, a DSM-V Research Planning Conference was held under joint sponsorship of the APA and the National Institute of Mental Health, the purpose of which was to set research priorities that might affect future classifications. The impetus for this conference was the frustration with the existing nomenclature.

> In the more than 30 years since the introduction of the Feighner criteria by Robins and Guze, which eventually led to DSM-III, the goal of validating these syndromes and discovering common etiologies has remained elusive. Despite many proposed candidates, not one laboratory marker has been found to be specific in identifying any of the DSM-defined syndromes. Epidemiologic and clinical studies have shown extremely high rates of comorbidities among the disorders, undermining the hypothesis that the syndromes represent distinct etiologies. Furthermore, epidemiologic studies have shown a high degree of short-term diagnostic instability for many disorders. With regard to treatment, lack of treatment specificity is the rule rather than the exception. (Kupfer et al. 2002, p. xviii)

DSM-V Research Planning Work Groups were formed to develop white papers that would guide research in a direction that would maximize impact on future editions of the diagnostic manual. The Nomenclature Work Group concluded that it is "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 recommended that initial efforts toward a dimensional model of classification be conducted with the personality disorders. "If a dimensional system of personality performs well and is acceptable to clinicians, it might then be appropriate to explore dimensional approaches in other domains" (Rounsaville et al. 2002, p. 13). These white papers were followed by a series of DSM-V Research Planning Conferences (see **www.dsm5.org** for a summary of each conference). It was the decision of the Executive Committee governing these conferences to devote the first to setting a research agenda that would be most useful and effective in leading the field toward a dimensional classification of personality disorder (Widiger et al. 2005).

FIVE-FACTOR MODEL OF PERSONALITY DISORDER

Rounsaville et al. (2002) suggested that the first section of the APA diagnostic manual to shift to a dimensional classification should be the personality disorders. They did not provide a reason for identifying personality disorders as the likely first choice for such a fundamental shift in conceptualization and classification, but one reason might simply be that personality disorders have been among the most problematic of disorders to be diagnosed categorically (First et al. 2002). Personalities

Personality disorder: a characteristic manner of thinking, feeling, behaving, and relating to others that results in clinically significant distress, social impairment, and/or occupational impairment

Personality: a person's characteristic manner of thinking, feeling, behaving, and relating to others that has been evident since young adulthood and is evident most every day throughout adult life

Dimensional model: hypothesizes that personality disorders exist along a continuum of functioning

APA: American Psychiatric Association

DSM-V: *Diagnostic and Statistical Manual of Mental Disorders*, fifth edition

are generally understood to involve constellations of adaptive and maladaptive personality traits that are not well summarized in just one word, the etiologies for which appear to involve complex interactions of an array of genetic dispositions and environmental experiences unfolding over time. The diagnostic categories of the DSM-IV-TR do not appear to be functioning well as a descriptive model, stricken with significant diagnostic heterogeneity, excessive diagnostic co-occurrence, lack of stable or meaningful diagnostic thresholds, inadequate coverage, and a weak scientific base (Clark 2007, Trull & Durrett 2005, Widiger & Trull 2007).

However, a more positive reason for personality disorders being potentially the first to shift to a dimensional model of classification is that there already exists a well-developed and empirically supported dimensional classification of general personality structure with which the APA personality disorders can be readily integrated, the five-factor model (FFM) (Widiger & Trull 2007). The FFM consists of five broad domains of general personality functioning: neuroticism (or emotional instability), extraversion versus introversion, openness versus closedness, agreeableness versus antagonism, and conscientiousness. The FFM was derived originally through empirical studies of the trait terms within the English language. Language can be understood as a sedimentary deposit of the observations of persons over the thousands of years of the language's development and transformation. The most important domains of personality functioning are those with the greatest number of trait terms to describe and differentiate the various manifestations and nuances of a respective domain, and the structure of personality is suggested by the empirical relationships among these trait terms. The initial lexical studies with the English language converged well onto a five-factor structure (Ashton & Lee 2001). Subsequent lexical studies have been conducted on many additional languages (e.g., German, Dutch, Czech, Polish, Russian, Italian, Spanish, Hebrew, Hungarian, Turkish, Korean, and Filipino), and these have confirmed well the existence of the five broad domains (Ashton & Lee 2001, Church 2001). The five broad domains have been differentiated into more specific facets by Costa & McCrae (1992) on the basis of their development of and research with the NEO Personality Inventory-Revised (NEO PI-R), by far the most commonly used and heavily researched measure of the FFM.

Studies have also now well documented that all of the DSM-IV-TR personality disorder symptomatology are readily understood as maladaptive variants of the domains and facets of the FFM (O'Connor 2002, 2005; Samuel & Widiger 2009; Saulsman & Page 2004; Widiger & Costa 2002). As acknowledged by Livesley (2001), "all categorical diagnoses of DSM can be accommodated within the five-factor framework" (p. 24). As expressed by Clark (2007), "the five-factor model of personality is widely accepted as representing the higher-order structure of both normal and abnormal personality traits" (p. 246).

Table 1 provides a description of the DSM-IV-TR personality disorders in terms of the FFM, as adapted from surveys of researchers (Lynam & Widiger 2001) and clinicians (Samuel & Widiger 2004). The FFM descriptions include the DSM-IV-TR personality disorder features and go beyond the criterion sets to provide fuller, more comprehensive descriptions of each personality disorder. For example, the FFM includes the traits of the DSM-IV-TR antisocial personality disorder (deception, exploitation, aggression, irresponsibility, negligence, rashness, angry hostility, impulsivity, excitement seeking, and assertiveness; see **Table 1**) and goes beyond the DSM-IV-TR to include traits that are unique to the widely popular Psychopathy Checklist-Revised (Hare & Neumann 2008), such as glib charm (low self-consciousness), arrogance (low modesty), and lack of empathy (tough-minded callousness) and goes even further to include traits of psychopathy emphasized originally by Cleckley (1941) but not included in either the DSM-IV-TR or the psychopathy checklist, such as low anxiousness

DSM-IV-TR: *Diagnostic and Statistical Manual of Mental Disorders*, fourth edition, text revision. The official diagnostic manual of mental disorders authored by the American Psychiatric Association

FFM: five-factor model. A dimensional model of general personality structure, consisting of neuroticism versus emotional stability, extraversion versus agreeableness, openness (or unconventionality), agreeableness versus antagonism, and conscientiousness

NEO PI-R: NEO Personality Inventory-Revised

Table 1 *Diagnostic and Statistical Manual of Mental Disorders* **(DSM-IV-TR) personality disorders from the perspective of the five-factor model of general personality structure**

	PRN	SZD	SZT	ATS	BDL	HST	NCS	AVD	DPD	OCP
Neuroticism (vs. **emotional stability**)										
Anxiousness (vs. unconcerned)			H	L	H			H	H	H
Angry hostility (vs. dispassionate)	H			H	H		H			
Depressiveness (vs. optimistic)					H					
Self-consciousness (vs. shameless)			H	L	H	L	L	H	H	
Impulsivity (vs. restrained)				H	H	H				L
Vulnerability (vs. fearless)				L	H			H	H	
Extraversion (vs. **introversion**)										
Warmth (vs. coldness)	L	L	L				L		H	
Gregariousness (vs. withdrawal)	L	L	L	H		H		L		
Assertiveness (vs. submissiveness)				H			H	L	L	
Activity (vs. passivity)		L		H		H				
Excitement seeking (vs. dullness)		L		H		H	H	L		L
Positive emotionality (vs. anhedonia)		L	L			H				
Openness (vs. **closedness**)										
Fantasy (vs. concrete)						H				
Aesthetics (vs. disinterest)										
Feelings (vs. alexithymia)		L			H	H	L			L
Actions (vs. routine)	L	L		H	H	H	H	L		L
Ideas (vs. closed-minded)			H							L
Values (vs. dogmatic)	L									L
Agreeableness (vs. **antagonism**)										
Trust (vs. mistrust)	L		L	L	L	H	L		H	
Straightforwardness (vs. deception)	L			L			L			
Altruism (vs. exploitation)				L			L			
Compliance (vs. opposition, aggression)	L			L	L		L		H	
Modesty (vs. arrogance)				L			L	H	H	
Tender-mindedness (vs. tough-minded)	L			L			L			
Conscientiousness (vs. **disinhibition**)										
Competence (vs. ineptitude)									L	H
Order (vs. disordered)			L							H
Dutifulness (vs. irresponsibility)				L						H
Achievement striving (vs. lackadaisical)										H
Self-discipline (vs. negligence)				L		L				H
Deliberation (vs. rashness)				L	L	L				H

PRN, paranoid; SZD, schizoid; SZT, schizotypal; ATS, antisocial; BDL, borderline; HST, histrionic; NCS, narcissistic; AVD, avoidant; DPD, dependent; OCP, obsessive-compulsive. H, high; L, low.

and low vulnerability or fearlessness (Hare & Neumann 2008, Lynam & Widiger 2007). The FFM not only has the withdrawal evident in both the avoidant and schizoid personality disorders (see facets of introversion), but also the anxiousness and self-consciousness that distinguishes the avoidant from the schizoid (see facets of neuroticism) as well as the anhedonia (low positive emotions) that distinguishes the schizoid from the avoidant (Widiger 2001).

The FFM has the intense attachment needs (high warmth of extraversion), the deference (high compliance of agreeableness), and the self-conscious anxiousness of the dependent personality disorder; the perfectionism and workaholism of the obsessive-compulsive (high conscientiousness); and the fragile vulnerability and emotional dysregulation of the borderline.

An FFM of personality disorder, however, is not simply an alternative means to describe the diagnostic categories of the DSM-IV-TR (Clark 2007). It is instead an alternative approach to diagnosing personality disorder. Widiger et al. (2002) proposed a four-step procedure for the diagnosis of a personality disorder from the perspective of the FFM. The first step is to obtain a hierarchical and multifactorial description of an individual's general personality structure in terms of the 5 domains and 30 facets of the FFM. The second step is to identify problems in living associated with elevated scores. **Figure 1** provides a brief description of typical impairments associated with all 60 poles of all 30 facets. The third step is to determine whether the impairments reach a clinically significant level that would warrant a diagnosis of personality disorder. The fourth step is optional: a quantitative matching of the individual's FFM personality profile to prototypic profiles of diagnostic constructs (e.g., Miller & Lynam 2003, Trull et al. 2003). An illustration of this four-step procedure was provided by Widiger & Lowe (2007).

DISCUSSION

Each of the four steps of an FFM personality disorder diagnosis are discussed below, along with general and specific issues that relate to one or more of these four steps. More specifically, discussed below are the integration of a psychiatric nomenclature with general personality structure, the inclusion of a domain of openness to experience, the identification of problems in living associated with each facet (characteristic maladaptations), the setting of a diagnostic threshold, prototypal matching, feasibility, and clinical utility.

Integration with General Personality Structure

The first step of the FFM four-step procedure is to obtain a hierarchical and multifactorial description of an individual's general personality structure in terms of the 5 domains and 30 facets of the FFM. An alternative proposal for the DSM-V is simply to provide a dimensional profile description in terms of the existing (or somewhat revised) diagnostic categories (Oldham & Skodol 2000). This proposal to convert the existing categories to dimensions was in fact made for the DSM-IV (Widiger 1996), but at the time it was considered to be too radical of a shift (Gunderson 1998). It is now perhaps the more conservative of the proposals for the DSM-V. With the chairperson of the DSM-V Personality Disorders Work Group being Dr. Skodol, some version of this proposal is likely to be implemented for the DSM-V.

A limitation of the proposal of Oldham & Skodol (2000) is that clinicians would continue to be describing patients in terms of markedly heterogeneous and overlapping constructs. A profile description in terms of the antisocial, borderline, dependent, histrionic, and other DSM-V personality disorder categories (or dimensions) would essentially just reify the excessive diagnostic co-occurrence that is currently being obtained (Clark 2007, Trull & Durrett 2005). The problem of excessive diagnostic co-occurrence would be "solved" by simply accepting it. This is comparable to the decision made by the authors of DSM-III-R (APA 1987) to address the problematic heterogeneity of the diagnostic categories by abandoning monothetic criterion sets that required homogeneity and converting to polythetic criterion sets that accepted the existence of the problematic heterogeneity. The problem was not actually solved. It was simply accepted as a necessary limitation of the categorical diagnoses.

An additional limitation of the Oldham & Skodol (2000) proposal is the failure to integrate the psychiatric nomenclature with a dimensional model of general personality structure. Existing research provides little to no

	Maladaptively high	Normal high	Normal low	Maladaptively low
NEUROTICISM				
Anxiousness	Fearful, Anxious	Vigilant, worrisome, wary	Relaxed, calm	Oblivious to signs of threat
Angry hostility	Rageful	Brooding, resentful, defiant	Even-tempered	Won't even protest exploitation
Depressiveness	Depressed, suicidal	Pessimistic, discouraged	Not easily discouraged	Unrealistic, overly optimistic
Self-Consciousness	Uncertain of self or identity	Self-conscious, embarrassed	Self-assured, charming	Glib, shameless
Impulsivity	Unable to resist impulses	Self-indulgent	Restrained	Overly restrained
Vulnerability	Helpless, emotionally unstable	Vulnerable	Resilient	Fearless, feels invincible
EXTRAVERSION				
Warmth	Intense attachments	Affectionate, warm	Formal, reserved	Cold, distant
Gregariousness	Attention-seeking	Sociable, outgoing, personable	Independent	Isolated
Assertiveness	Dominant, pushy	Assertive, forceful	Passive	Resigned, uninfluential
Activity	Frantic	Energetic	Slow-paced	Lethargic, sedentary
Excitement-Seeking	Reckless, foolhardy	Adventurous	Cautious	Dull, listless
Positive Emotions	Melodramatic, manic	High-spirited, cheerful, joyful	Placid, sober, serious	Grim, anhedonic
OPENNESS				
Fantasy	Unrealistic, lives in fantasy	Imaginative	Practical, realistic	Concrete
Aesthetics	Bizarre interests	Aesthetic interests	Minimal aesthetic interests	Disinterested
Feelings	Intense, in turmoil	Self-aware, expressive	Constricted, blunted	Alexithymic
Actions	Eccentric	Unconventional	Predictable	Mechanized, stuck in routine
Ideas	Peculiar, weird	Creative, curious	Pragmatic	Closed-minded
Values	Radical	Open, flexible	Traditional	Dogmatic, moralistically intolerant
AGREEABLENESS				
Trust	Gullible	Trusting	Cautious, skeptical	Cynical, suspicious
Straightforwardness	Guileless	Honest, forthright	Savvy, cunning, shrewd	Deceptive, dishonest, manipulative
Altruism	Self-sacrificial, selfless	Giving, generous	Frugal, withholding	Greedy, exploitative
Compliance	Yielding, docile, meek	Cooperative, obedient, deferential	Critical, contrary	Combative, aggressive
Modesty	Self-effacing, self-denigrating	Humble, modest, unassuming	Confident, self-assured	Boastful, pretentious, arrogant
Tender-Mindedness	Overly soft-hearted	Empathic, sympathetic, gentle	Strong, tough	Callous, merciless, ruthless
CONSCIENTIOUSNESS				
Competence	Perfectionistic	Efficient, resourceful	Casual	Disinclined, lax
Order	Preoccupied w/organization	Organized, methodical	Disorganized	Careless, sloppy, haphazard
Dutifulness	Rigidly principled	Dependable, reliable, responsible	Easygoing, capricious	Irresponsible, undependable, immoral
Achievement	Workaholic	Purposeful, diligent, ambitious	Carefree, content	Aimless, shiftless, desultory
Self-Discipline	Single-minded doggedness	Self-disciplined, willpower	Leisurely	Negligent, hedonistic
Deliberation	Ruminative, indecisive	Thoughtful, reflective, circumspect	Quick to make decisions	Hasty, rash

Figure 1

Adaptive and maladaptive variants of the five-factor model as presented in the Five Factor Form (Mullins-Sweatt et al. 2006).

support for the belief that personality disorders are qualitatively distinct from general personality functioning (Trull & Durrett 2005, Widiger & Trull 2007). The considerable amount of research that has explored the relationship of normal and abnormal personality suggests that the structure is largely the same for both populations and that the most valid conceptualization is that personality disorders represent maladaptive variants of general personality structure (Clark 2007; Livesley 2001; Markon et al. 2005; O'Connor 2002, 2005; Samuel & Widiger 2009; Saulsman & Page 2004; Widiger & Costa 2002). Taxometric research has also favored a dimensional perspective (Haslam & Williams 2006). The one exception might be schizotypal, but even here, significant doubts regarding the support for a latent class taxon have been raised (Rawlings et al. 2008, Widiger & Samuel 2005). In a survey of members of the International Society for the Study of Personality Disorders and the Association for Research on Personality Disorders, 80% of respondents indicated that personality disorders are best understood as extreme variants of normal personality rather than as categorical disease entities (Bernstein et al. 2007).

An advantage of an integrative model is the development of a uniform classification of personality and personality disorder that would cover both normal and abnormal personality functioning within a single, common structure, bringing to an understanding of personality disorders a considerable amount of basic science research supporting behavior genetics (Yamagata et al. 2006), molecular genetics for neuroticism (Munafo et al. 2005), childhood antecedents (Caspi et al. 2005, Mervielde et al. 2005), temporal stability across the life span (Roberts & DelVecchio 2000), and universality (Allik 2005, Ashton & Lee 2001). This is a scientific foundation that is sorely lacking for the existing nomenclature (Blashfield & Intoccia 2000, Widiger & Trull 2007). Even proponents of the existing personality disorder diagnostic constructs acknowledge that "similar construct validity has been more elusive to attain with the current DSM-IV personality disorder categories" (Skodol et al. 2005, p. 1923).

An integration of a classification of personality disorder with general personality structure might even help somewhat with the stigmatization of a mental disorder diagnosis (Hinshaw & Stier 2008), as no longer would a personality disorder be conceptualized as something that is qualitatively distinct from normal personality. Personality disorders simply represent the presence of maladaptive variants of the personality traits that are evident within all persons. Personality disorders are relatively unique in concerning ego-syntonic aspects of the self, or one's characteristic manner of thinking, feeling, behaving, and relating to others pretty much every day throughout one's adult life (Millon et al. 1996). In this regard, a personality disorder diagnosis can be quite stigmatizing, suggesting that who you are and always have been is itself a mental disorder. The FFM of personality disorder provides a more complete description of each person's self that recognizes and appreciates that the person is more than just the personality disorder and that there are aspects to the self that can be adaptive, even commendable, despite the presence of the personality disorder. Some of these strengths may also be quite relevant to treatment, such as openness to experience indicating an interest in exploratory psychotherapy, agreeableness indicating an engagement in group therapy, and conscientiousness indicating a willingness and ability to adhere to the demands and rigor of dialectical behavior therapy (Sanderson & Clarkin 2002).

Openness

Included within the first step of the four-step procedure is an assessment of the domain and facets of openness. However, in their effort to find a common ground among alternative dimensional models, Widiger & Simonsen (2005b) proposed a four- rather than a five-factor model (i.e., emotional dysregulation versus emotional stability, extraversion versus

STPD: schizotypal personality disorder

introversion, antagonism versus compliance, and constraint versus impulsivity), excluding the domain of openness. FFM personality disorder research has often failed to obtain much representation of openness (O'Connor 2005, Saulsman & Page 2004), and its exclusion from a dimensional model of personality disorder might not be sorely missed. An adoption of a four-factor rather than a five-factor model of personality disorder would also be consistent with a trend toward moving schizotypal personality disorder (STPD) out of the personality disorder section and into a section of schizophrenia-related disorders (First et al. 2002). There is considerable interest in no longer conceptualizing STPD as a personality disorder (Krueger et al. 2008), and STPD cognitive-perceptual aberrations are the predominant DSM-IV-TR personality disorder symptoms that fall within the openness domain.

STPD is genetically related to schizophrenia, most of its neurobiological risk factors and psychophysiological correlates are shared with schizophrenia (e.g., eye tracking, orienting, startle blink, and neurodevelopmental abnormalities), and the treatments that are effective in ameliorating schizotypal symptoms overlap with treatments used for persons with schizophrenia (Parnas et al. 2005, Raine 2006). In fact, the World Health Organization's (1992) International Classification of Diseases, the parent classification to the APA diagnostic manual, does not recognize the existence of STPD, providing instead a diagnosis of schizotypal disorder that is included within the section of the manual for disorders of schizophrenia.

However, there are also compelling reasons for continuing to consider STPD as a personality disorder. Simply because a personality disorder shares some genetic foundation with another disorder does not then indicate that it is a form of that other disorder (all of the personality disorders share some genetic association with other mental disorders; Krueger 2005). In addition, STPD is far more comorbid with other personality disorders than it is with any other schizophrenia-related disorder, persons with STPD rarely go on to develop schizophrenia, and schizotypal symptomatology is seen in quite a number of persons within the general population who lack any genetic association with schizophrenia and who would not be at all well described as having some form of schizophrenia (Raine 2006).

A major reason that a fifth factor of maladaptive openness often fails to appear in factor analytic personality disorder research is that the relevant symptomatology is not sufficiently prevalent enough to carry an independent factor, relative to the other four. This was demonstrated empirically by Tackett et al. (2008), who obtained a fifth factor of personality disorder symptomatology (which they identified as "peculiarity") when a sufficient representation of cognitive-perceptual aberrations were included.

One study has suggested that cognitive-perceptual aberrations (and other schizotypic eccentricities) might belong outside of the realm of the FFM, defining its own, separate domain of general personality functioning (Watson et al. 2008). However, this particular finding is readily understood as an artifact of overloading a particular domain (approximately twice as many measures were included to represent normal and abnormal variants of openness, in comparison to the other domains). Just as a domain of personality functioning will not appear if it does not have adequate representation among the variables submitted to a factor analysis (Tackett et al. 2008), a domain of personality functioning will likely split if its representation is excessive, relative to the others. In this instance, the openness domain split into separate normal and abnormal variants, whereas the normal and abnormal variants remained coupled for the other four domains of the FFM.

Tellegen and Waller (unpublished data) originally conceptualized this domain as conventionality versus unconventionality and, consistent with **Figure 1**, included such attributes as dwelling upon fantasies, having ideas or

beliefs that have little basis within reality, or often engaging in activities that are bizarre, deviant, or aberrant. Lee & Ashton (2004) similarly include a facet for "unconventionality" within their conceptualization of openness (along with aesthetic appreciation, creativity, and inquisitiveness). Ross et al. (2002) demonstrated empirically that schizotypal magical ideation and cognitive perceptual aberration scales are significantly related to facets of openness to experience. Similarly, a factor analysis of the FFM domains with schizotypal scales found a distinct factor represented by magical ideation, perceptual aberration, and openness (Camisa et al. 2005).

A potential advantage of the FFM, relative to the DSM-IV-TR, is that it was developed to provide a reasonably comprehensive description of general personality structure (Costa & McCrae 1992). Thus, to the extent that personality disorders are extreme or maladaptive variants of general personality structure, the FFM may also provide a reasonably comprehensive description of maladaptive personality functioning (Saulsman & Page 2004, Trull 2005). Alexithymia, for instance, is a maladaptive personality trait that has been of significant scientific and clinical interest (Taylor & Bagby 2004) yet finds no representation within the current diagnostic manual. It is, however, well represented in the FFM as low openness to feelings (Luminet et al. 1999). Similarly, pathological bias (e.g., racism) has received some support within the clinical and research literature as a variant of personality disorder (Alarcon et al. 2002, Bell 2006). There is currently no representation of prejudice within the DSM-IV-TR, but if one did want to conceptualize prejudice as a maladaptive personality trait, it is again readily represented within the FFM in large part as closed-mindedness toward ideas (along with facets of antagonism; Flynn 2005). In sum, the failure of openness to be heavily represented within the DSM-IV-TR personality disorder nomenclature may say more about a limitation of the DSM-IV-TR than the FFM.

Adaptations and Maladaptations

Personality disorders are diagnosed when the maladaptive personality traits result in "clinical significant distress or impairment in social, occupational, or other important areas of functioning" (APA 2000, p. 689). Step two of the four-step procedure is the identification of the social, occupational, and other impairments that are associated with any particular elevation on an FFM trait, consistent with the APA definition of a personality disorder. Widiger et al. (2002) provided a list of common problems in living associated with each of the FFM facets. McCrae et al. (2005) provided a further extension of this list. **Figure 1** provides an abbreviated list of these impairments.

FFT: Five-Factor Theory

The FFM approach is consistent with a growing interest in separating the assessment of personality disorder from the assessment of personality dysfunction (Clark 2007, Parker et al. 2004). As expressed by members of the DSM-V Personality Disorders Work Group, "we see the concept of a diagnosable personality disorder as involving the combination of personality traits and a separate but complementary evaluation of personality dysfunction" (Krueger et al. 2008, p. 93). An issue, however, that warrants consideration is the extent to which traits and problems-in-living can in fact be truly separated, conceptually and methodologically.

In their Five-Factor Theory (FFT), McCrae & Costa (2003) distinguish between basic tendencies and characteristic adaptations. They consider neuroticism, extraversion, openness, agreeableness, and conscientious to be basic tendencies, and "in contrast to virtually all other personality theories, FFT does not admit of any influence of the environment on personality traits" (p. 193). Personality "traits are conceived as biologically based basic tendencies that interact with external influences over time to create characteristic adaptations, which includes skills, interests, roles, habits, and attitudes" (McCrae 2006, p. 53). Similarly, "individuals may also develop irrational beliefs, dysfunctional roles, and bad habits—characteristic maladaptations" (McCrae 2006, p. 54).

The NEO PI-R, and other measures of the FFM, can be said to be assessing both the basic tendencies and the characteristic adaptations and maladaptations. There is empirical support for suggesting that the NEO PI-R is assessing underlying biological dispositions, or basic tendencies (Munafo et al. 2005, Yamagata et al. 2006). However, it is also apparent that the NEO PI-R is assessing these basic tendencies through the characteristic adaptations and maladaptations. A NEO PI-R item, "I'm something of a 'workaholic'" (Costa & McCrae 1992, p. 73), is assessing the biological disposition that underlies the domain of conscientiousness (Yamagata et al. 2006) as well as the characteristic maladaptation of spending too much time in work-related behaviors to the detriment of other areas of life. Similarly, the NEO PI-R item "I work hard to accomplish my goals" (Costa & McCrae 1992, p. 73) is contributing to the assessment of the biological disposition that underlies conscientiousness (Yamagata et al. 2006) as well as the characteristic adaptation of working toward the achievement of important life goals. In sum, it is not clear how the assessments of the traits and impairments (characteristic maladaptations) can in fact be truly separated.

What is separated in steps 1 and 2 of an FFM assessment of personality disorder (or any other assessment of personality trait and dysfunction; Krueger et al. 2008) is simply a distinction between broad traits and specific behaviors. Any particular personality trait (e.g., conscientiousness) can be assessed through a wide variety of specific behaviors (e.g., paying debts promptly, adhering to strict ethical principles, working hard to accomplish goals, and finishing projects once they are started; Costa & McCrae 1992). Some of these behaviors will be functional (working hard to achieve goals), whereas others will be dysfunctional (working with such perfectionism that tasks fail to be completed). The assessment of the traits is not actually separate from an assessment of the behaviors. The behaviors are specific manifestations, illustrations, or expressions of the broader traits, and these behaviors can be distinguished with respect to whether they are adaptive or maladaptive.

Diagnostic Threshold

Step three of the four-step procedure is to determine whether the impairment and distress reach a clinically significant level warranting a diagnosis of personality disorder. The FFM of personality disorder is dimensional but also recognizes that distinctions along the continua must be made for various social and clinical decisions, including whether to hospitalize, whether to medicate, whether to provide disability, and whether to provide insurance coverage, to name just a few. It is clear that the diagnostic thresholds for the DSM-IV-TR personality disorders do not relate well to any one of these clinical decisions, hence the lack of clinical utility for the existing nomenclature (Verheul 2005), an issue discussed further below. In addition, it is also clear that any single diagnostic threshold is unlikely to be optimal for all of these different clinical decisions. A distinct advantage of a dimensional classification of personality disorder is that different thresholds can be provided for different social and clinical decisions (Trull 2005, Widiger & Samuel 2005). One can identify the different levels of emotional instability (neuroticism) that suggest the need for insurance coverage, pharmacotherapy, hospitalization, or disability. The diagnostic system could be constructed to maximize utility for different clinical decisions, an option that is currently nonexistent and very cumbersome (if not impossible) to implement with the existing diagnostic categories.

With respect to the threshold for the fundamental question of whether the person should be provided with a personality disorder diagnosis, we suggest that a useful guide for this particular decision is given by the global assessment of functioning scale on Axis V of DSM-IV-TR: "Axis V is for reporting the clinician's judgment of the individual's overall level of functioning" (APA 2000, p. 32). The clinician is instructed to "consider psychological, social, and occupational functioning on a hypothetical

continuum of mental health-illness" (APA 2000, p. 34) and to indicate the current level of functioning along a scale that ranges from 1–10 (persistent danger of severely hurting self or others, persistent inability to maintain minimal personal hygiene, or serious suicidal act with clear expectation of death) to 91–100 (superior functioning in a wide range of activities, life's problems never seem to get out of hand, sought out by others because of many positive qualities, and no symptoms of any mental disorder). A score of 71 or above indicates a normal range of functioning (i.e., problems are transient and expectable reactions to stressors, with no more than slight impairments), whereas a score of 60 or below would be considered to represent a clinically significant level of impairment (moderate difficulty in social or occupational functioning, such as having few friends or significant conflicts with coworkers). This point of demarcation is arbitrary in that it does not carve nature at a discrete joint but it provides a reasonable basis for identifying the presence of disorder that can be used consistently across different personality disorders, and it is based on a well-researched scale that has been used for a number of different disorders (Hilsenroth et al. 2000). Further explication of this scale is provided by the Global Assessment of Relational Functioning and the Social and Occupational Functioning scales (APA 2000, Hilsenroth et al. 2000).

The FFM proposal is commensurate with the current procedure for determining at what point intellectual functioning warrants a diagnosis of mental retardation. Rounsaville et al. (2002) suggest that personality disorders be the initial place in which the APA diagnostic manual shifts to a dimensional model of classification; however, there is already a very strong precedent within the DSM-IV-TR. Mental retardation is a close companion, quite literally, of personality disorder as it is fortuitously, yet appropriately, the other resident of Axis II of the DSM-IV-TR (APA 2000). The domain of intelligence, like personality, is distributed as a hierarchical, multifactorial continuous variable, as most persons' level of intelligence, including most of those with mental retardation, is the result of a complex interaction of multiple genetic, fetal and infant development, and environmental influences. There are no discrete breaks in its distribution that would provide an absolute distinction between normal and abnormal intelligence. The point of demarcation for the diagnosis of mental retardation is an arbitrary, quantitative distinction along the normally distributed levels of hierarchically and multifactorially defined intelligence. The current point of demarcation is an intelligence quotient of 70 along with a clinically significant level of impairment. This point of demarcation is again arbitrary, also failing, like the FFM of personality disorder, to carve nature at a discrete joint, but this cutoff point was a well-reasoned and defensible selection informed by problems in living commonly associated with an intelligence quotient of 70 or below.

One distinct advantage of basing the diagnosis on the global assessment of functioning level of impairment is the provision of a uniform cutoff point for the diagnosis of any individual and any particular disorder of personality. Most of the current personality disorder diagnostic thresholds do not even have a published rationale, let alone empirical support (Livesley 2001, Trull 2005). For example, at least four of seven criteria are required for the diagnosis of schizoid personality disorder (APA 2000), but the basis for this diagnostic threshold has never been offered. There is also no assumption or implication that it is meaningfully congruent with the diagnostic threshold set for any other personality disorder. Only the diagnostic thresholds for the borderline and schizotypal personality disorders were derived on the basis of an explicit rationale (i.e., consistency with clinicians' perceptions of the presence of the respective personality disorders), and these DSM-III diagnostic thresholds have long since been fundamentally altered with the subsequent revisions to the criterion sets (Skodol et al. 2002). In the absence of any consistent rationale for where to set the thresholds, it is hardly surprising to find substantial variation in the prevalence rates across each edition of the

Categorical model: hypothesizes that personality disorders are categorically distinct entities

diagnostic manual (Widiger & Trull 2007), complicating substantially theoretical explanation for the prevalence of mental disorders and for the public health implications of having a personality disorder (Narrow et al. 2002).

Consistent with the FFM proposal, members of the DSM-V Personality Disorders Work Group have now also proposed that the diagnosis of a personality disorder involve "the combination of personality traits and a separate but complementary evaluation of personality dysfunction" (Krueger et al. 2008, p. 93). However, in an effort to distinguish this proposal from the FFM, they argued that "personality disorder may constitute something more than clinically significant extremity of personality" (Krueger et al. 2008, p. 94). More specifically, they suggested that the distinguishing feature for a personality disorder is the failure to perform three fundamental life tasks: (*a*) "establishment of coherent and adaptive working models of the self and others," (*b*) "establishment of intimate relationships and activities," and (*c*) "establishment of occupational relationships and activities" (Krueger et al. 2008, p. 95). However, it is apparent that points two and three of Krueger et al. (2008) are simply another way of describing clinically significant social and occupational impairments, respectively. The only significant change is to replace distress with identity disturbance (i.e., failure to establish coherent sense of self and others).

Replacing distress with identity diffusion in defining the fundamental impairments of a personality disorder does distinguish the Livesley (2007) and Krueger et al. (2008) proposal from the FFM. We would suggest, though, that removal of distress from the definition of personality disorder is an error, as a disorder of personality is evidenced by more than just social and occupational impairment (and identity diffusion). Negative affectivity and emotional lability are fundamental components of a personality disorder that are not necessarily associated with social and occupational impairment, or identity disturbance.

Prototypal Matching

The fourth step of the FFM of personality disorder is a quantitative matching of the individual's personality profile to prototypic profiles of theoretically, socially, or clinically important constructs. This last step is provided for clinicians and researchers who wish to continue to provide or study single diagnostic labels that describe a prototypic case to characterize an actual person's personality profile. One of the perceived advantages of a categorical model is the ability to summarize a particular constellation of maladaptive personality traits with a single diagnostic label. "There is an economy of communication and vividness of description in a categorical name that may be lost in a dimensional profile" (Frances 1993, p. 110), and there can be constellations of personality traits that may have particular theoretical significance, clinical interest, or social implications, such as the borderline FFM profile (Trull et al. 2003) or the psychopathic (Lynam & Widiger 2007).

Table 1 provides the description of each of the 10 personality disorders in terms of the 30 facets of the FFM. A more specific, quantitative rating on each of the 30 facets is provided in Lynam & Widiger (2001) based on a survey of researchers and Samuel & Widiger (2004) based on a survey of clinicians (the FFM descriptions of prototypic cases by the researchers and clinicians converged from 0.90 for dependent to 0.97 for antisocial). To obtain a measure of the extent to which a particular patient's personality profile matches the profile of a prototypic case, one can simply correlate the patient's FFM facet scores (obtained via the administration of an FFM assessment instrument) with the respective FFM profile of a prototypic case. The extent to which an individual's FFM profile correlates with the FFM profile for a prototypic case can then be used as a quantitative indication of the likelihood that the person fits the profile for that construct, as validated empirically for borderline personality disorder by Trull et al. (2003) and for psychopathy by Lynam (2002) and Miller & Lynam (2003).

An advantage of the FFM prototypal matching, relative to the DSM-IV-TR, is that clinicians and researchers can develop their own FFM profiles for constructs that are not currently included within the diagnostic manual. One of the more popular diagnoses in general clinical practice is personality disorder, not otherwise specified (PDNOS; Verheul & Widiger 2004). PDNOS is provided when a clinician has judged that a personality disorder is present, but the symptomatology does not meet the criteria for one of the 10 diagnostic options. The fact that PDNOS is often used is a testament to the inadequacy of the existing 10 diagnoses to provide adequate coverage. Idiosyncratic constellations of personality traits are addressed well by a dimensional profile of the individual in terms of the 30 facets of the FFM (Costa & McCrae 1992). In addition, clinicians and researchers interested in studying diagnostic constructs that are outside of the existing nomenclature (e.g., the successful psychopath; Lynam 2002) can use the FFM to provide a reasonably specific description of a new clinical construct and use the prototypal matching methodology to study it empirically.

It should be emphasized, however, that the prototypal matching score is provided only as an option for clinicians who wish to continue to describe and study single diagnostic constructs. The risk in doing so, of course, is simply reproducing many of the problems and limitations of diagnostic categories (Clark 2007, Trull & Durrett 2005, Widiger & Trull 2007). In most cases the quantitative matching will serve primarily to indicate the extent to which any single construct (e.g., borderline) is inadequately descriptive of the individual person. The purpose of the FFM of personality disorder is not to provide another means with which to return to single diagnostic labels. In the vast majority of cases, the optimal description will be provided by the actual FFM profile of the person rather than a profile of a hypothetical prototype or the extent to which the person's FFM profile resembles this prototype.

Feasibility

The four steps might at first blush appear to involve a considerable amount of work (step four is, though, optional). Clinicians may understandably respond with a deep breath of concern upon first inspection of **Figure 1**, finding it daunting to conceive of having to become familiar with both the adaptive and maladaptive variants of all 60 poles of all 30 facets of the FFM. In addition, a few of the facets lack substantially compelling clinical relevance. For instance, maladaptively high openness to aesthetics is unlikely, to say the least, to be a significant focus of treatment in most clinical settings, and in most instances would be coded as being below threshold of clinical significance. **Figure 2** provides an abbreviated version of the FFM of personality disorder (further discussion of this abbreviated version is provided in Widiger & Lowe 2008).

PDNOS: personality disorder, not otherwise specified

FFMRF: Five Factor Model Rating Form

The FFM classification of personality disorder provided in **Figure 2** is a simplification in a number of ways. First, the adaptive behaviors are confined to just the 5 broad domains rather than the 30 facets. In addition, the maladaptive facets have been reduced from 60 to just 26. This reduction was achieved in part by eliminating poles of facets that were considered to be too infrequent or obscure for most clinical use (e.g., maladaptively high openness to aesthetics).

Figure 3 provides draft diagnostic criteria for extraversion versus introversion and for the four respective maladaptive facets for that domain included within the abbreviated version. A patient is first assessed with respect to the six facets of the FFM. Each facet is rated on a 1 to 5 Likert scale, consistent with existing research with the Five Factor Model Rating Form (FFMRF; Mullins-Sweatt et al. 2006). If the person receives an elevated score, then the clinician would assess for the presence of the two maladaptive variants of high extraversion (i.e., reckless sensation-seeking and intense attachment). If the person receives a low score, then the clinician would assess for maladaptive

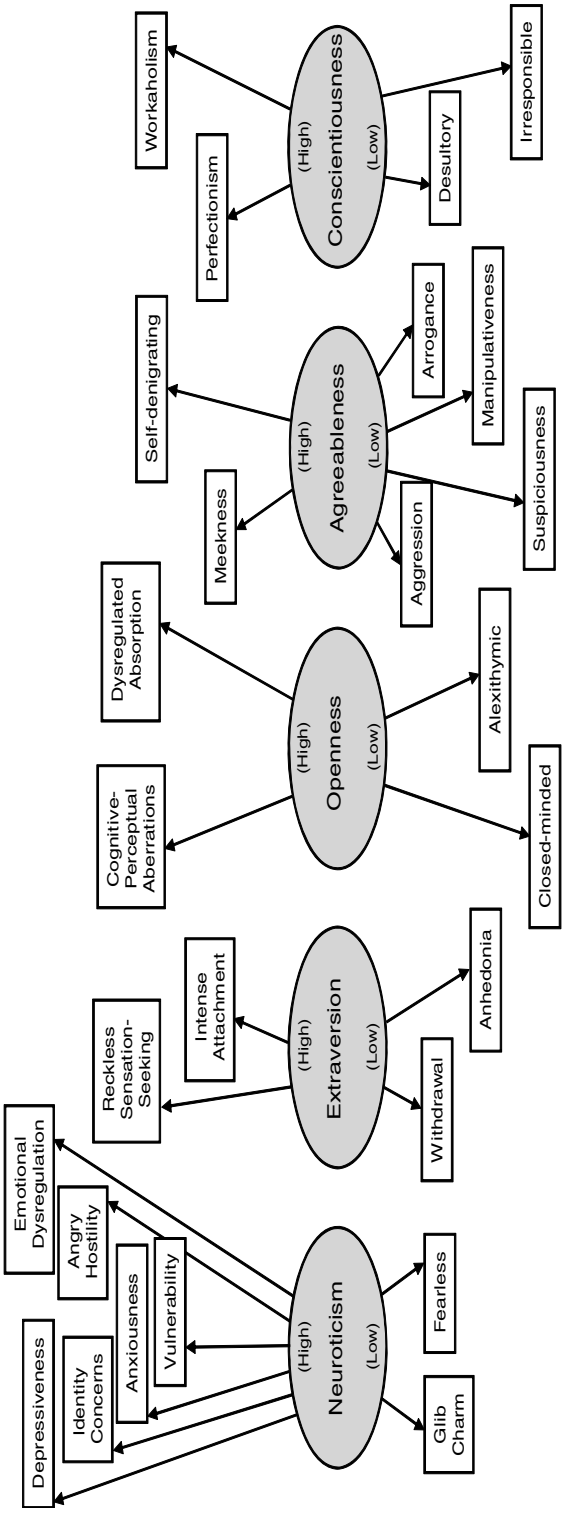

Figure 2
Abbreviated version of a five-factor model proposal for the *Diagnostic and Statistical Manual of Mental Disorders*, fifth edition.

variants of introversion. Space limitations prohibit the presentation of all of the diagnostic criteria for all 5 domains and the 26 facets, but these can obtained on request from the first author. If the person receives a score within the middle range, then no further assessment would typically be necessary (exceptions to this are discussed below).

The presence of 26 facets might still seem daunting (albeit the Krueger et al. 2008 proposal consists of 30 facets). However, it is important to appreciate that each of these clinical constructs is substantially easier to assess than the DSM-IV-TR personality disorders as the latter constitute complex combinations and constellations of these constructs (Clark 2007, Livesley 2001, Widiger & Trull 2007). In addition, the maladaptive facets are only assessed if there is an elevation on a respective domain. One first begins with the description of the person in terms of general personality functioning at the level of the five broad domains. If the person is assessed to be high in agreeableness (for instance), one would then assess for the maladaptive variants of deference and meekness, and one would not need to assess for the maladaptive variants of suspiciousness, manipulation, aggression, or arrogance. In this way, the five broad domains serve in part as a screening process, identifying whether particular maladaptive traits need to be assessed (exceptions to this rule of thumb can occur if a person is both extremely high and extremely low on facets within the same domain). An FFM assessment of personality disorder generally takes half the amount of time of an assessment of the DSM-IV-TR personality disorders because much of the administration of a DSM-IV-TR personality disorder semistructured interview is spent in the assessment of diagnostic criteria that are not present (Widiger & Lowe 2007). The DSM-IV-TR (APA 2000), the Dimensional Assessment of Personality Pathology (Livesley 2007), and the Schedule for Nonadaptive and Adaptive Personality (Clark 1993) approaches to personality disorder diagnosis require that all of the maladaptive personality trait scales be assessed in every

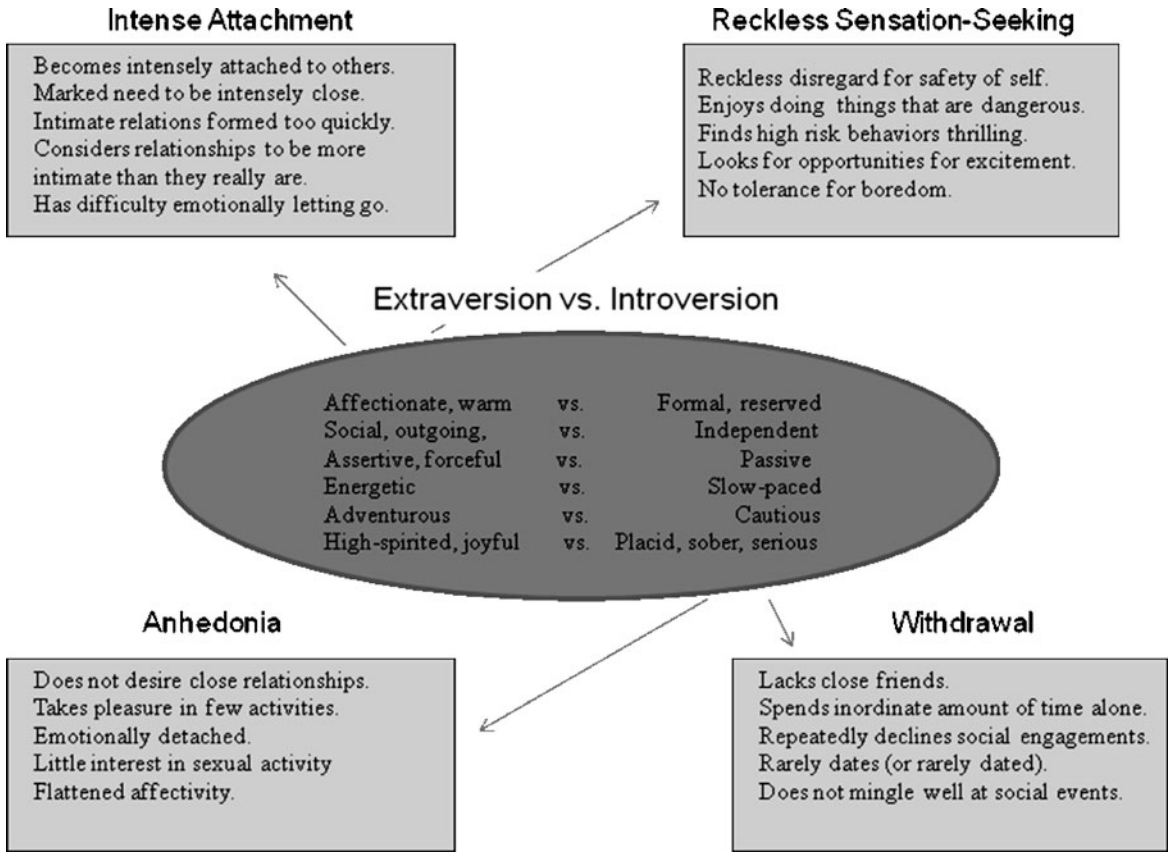

Figure 3

The five-factor model diagnosis of maladaptive extraversion versus introversion.

patient. This considerable amount of time is diminished substantially in the FFM through the screening process of assessing whether the person is high or low in the five broad domains of general personality functioning.

The abbreviated version does naturally fail to include all of the maladaptive traits present within the FFM, as illustrated within **Figure 1**. Missing from the abbreviated version, for instance, are such maladaptive variants as attention seeking (high gregariousness), gullibility (high trust), guilelessness (high straightforwardness), exploitativeness and greed (low altruism), callousness (high tough-mindedness), ruminative indecisiveness (high deliberation), hedonism (low self-discipline), and aimlessness (low achievement-striving). One cannot have an abbreviated model without losing information, and it is certainly conceivable that some of this information will at times have important clinical significance.

Nevertheless, even in the abbreviated version clinicians would be alerted to the potential presence of the additional maladaptivity through elevations on specifically relevant facet scales within each of the five domains. For example, with respect to **Figure 3**, a person could receive the highest (or lowest) possible score on a respective facet for which no maladaptive variant is provided (e.g., a score of 5 on gregariousness, suggesting the potential presence of attention seeking, or a score of 1 on warmth, suggesting the possibility of interpersonal coldness). These specific facets of

maladaptive personality functioning could then be assessed, if wished, through an implementation of the more complete, full version of the FFM of personality disorder (see **Figure 1**). A number of instruments have been developed to facilitate this more complete and comprehensive assessment (Widiger & Lowe 2007), including the NEO PI-R (Costa & McCrae 1992), which will assess well the normal range, as well as the Structured Interview Assessment of the Five Factor Model (Trull & Widiger 1997) and the FFMRF (Mullins-Sweatt et al. 2006; the items in **Figure 1** are from a modified version of the FFMRF).

Clinical Utility

One of the fundamental concerns regarding a shift to a dimensional classification of personality disorder, including the four-step procedure of the FFM, has been clinical utility. As First (2005) argued in his rejoinder to proposals for converting the psychiatric diagnostic categories into dimensions, "the most important obstacle standing in the way of its implementation in DSM-V (and beyond) is questions about clinical utility" (p. 561). This concern is perhaps somewhat ironic as it is not particularly clear that the existing diagnostic categories actually have compelling clinical utility. Verheul (2005) systematically reviewed various components of clinical utility for both the categorical and dimensional models and concluded, "overall, the categorical system has the least evidence for clinical utility, especially with respect to coverage, reliability, subtlety, and clinical decision-making" (p. 295). The heterogeneity of diagnostic membership, the lack of precision in description, the excessive diagnostic co-occurrence, the failure to lead to a specific diagnosis, the reliance on the "not otherwise specified" wastebasket diagnosis, and the unstable and arbitrary diagnostic boundaries of the DSM-IV-TR diagnostic categories (Clark 2007, Trull & Durrett 2005, Widiger & Trull 2007) are sources of considerable frustration for clinicians. We discuss below existing clinical utility research and implications for treatment. Additional discussion of these issues is provided in Widiger & Lowe (2008).

Clinical utility research. There have been three published studies on the clinical utility of dimensional models of general personality structure, relative to the existing DSM-IV-TR diagnostic categories. It is perhaps worth considering each in some detail as they obtained quite different results. The first head-to-head comparison of the clinical utility and relevance of dimensional systems for personality diagnosis was provided by Sprock (2003). Sprock provided clinicians with brief case vignettes and asked them to describe the persons in terms of the DSM-IV-TR diagnostic categories, as well as alternative dimensional models of general personality structure, including the FFM. She found that the clinicians provided higher clinical utility ratings for the existing diagnostic categories. A limitation of the study by Sprock (2003), however, was that the brief vignettes were constructed of sentences that paralleled the diagnostic criteria for the DSM-IV-TR personality disorders. The system used to devise the vignettes would likely be the system that best describes those same vignettes.

Samuel & Widiger (2006) surveyed members of the private practice division of the American Psychological Association (Division 42). They provided them with relatively detailed descriptions of actual persons with maladaptive personality traits (e.g., Ted Bundy). They asked the participants to describe the person with respect to the FFM and the DSM-IV-TR personality disorders, and then to provide their professional judgment as to various aspects of clinical utility. The clinicians indicated that the FFM dimensional rating was more useful than the DSM-IV-TR for providing a global description of the individual's personality, communicating information to clients, encompassing all of the individual's important personality difficulties, and even assisting in formulating effective treatment interventions.

A third clinical utility study was conducted by Spitzer et al. (2008). They asked clinicians to describe a current patient that they knew

reasonably well with respect to five alternative descriptive models. One approach was to rate the patient with respect to all of the DSM-IV-TR personality disorder diagnostic criteria, a second was to simply match the patient on a five-point Likert scale to a paragraph description of a prototypic case of each of the 10 DSM-IV-TR personality disorders (the sentences were from the respective diagnostic criterion sets). A third approach was the prototypal matching procedure of Westen et al. (2006) in which one matches the patient on a five-point scale to paragraph descriptions of prototypic cases (consisting of 18–20 sentences) described in terms of the Shedler-Westen Assessment Procedure-200 (SWAP-200). The fourth and fifth approaches were to complete scales assessing each of the 30 facets of the FFM (Widiger et al. 2002) and the seven factors of the Temperament and Character Inventory (TCI; Cloninger 2006).

Inconsistent with Sprock (2003), Spitzer et al. (2008) obtained low utility ratings for the DSM-IV-TR diagnoses (when having to assess the patient with respect to the diagnostic criteria). The clinicians preferred the SWAP-200 prototypal matching procedure and, secondarily, the comparable DSM-IV-TR prototypal matching procedure. The FFM and TCI ratings received consistently lower levels of clinical utility, even for how useful they would be for comprehensively describing what is important about a patient's personality.

A limitation of the Spitzer et al. (2008) study, however, was conflating the method with the constructs being assessed. The results appear to reflect simply a preference by clinicians to use the easiest method. The clinicians preferred the DSM-IV-TR prototypal matching approach to the DSM-IV-TR personality disorder diagnostic criteria, yet there was virtually no difference in the content of what was being assessed. The FFM and TCI assessments were considerably more labor intensive in their requirements than either the SWAP or DSM-IV-TR prototypal matching approaches. As indicated by Westen et al. (2006), "clinicians could make a complete Axis II diagnosis in 1 or 2 minutes" (p. 855) with their prototypal matching procedure (as no systematic assessment of personality traits or diagnostic criteria is required), whereas the FFM (as assessed in Spitzer et al. 2008) required that the clinicians complete a six-page rating form.

In sum, three clinical utility studies of alternative dimensional models of personality disorder have obtained quite different results. Given the inconsistency in findings, it is evident that further research is needed to address the reasons for the differences and to reach more definitive conclusions. For example, it would be of interest for future research to contrast the alternative dimensional models holding constant the method of assessment. An additional issue for future clinical studies is to address the inherent limitation any new model would have relative to the training and experience the clinicians have had with the existing DSM-IV-TR nomenclature.

SWAP-200: Shedler-Westen Assessment Procedure-200

TCI: Temperament and Character Inventory

Treatment guidelines. It is telling that it has been over ten years since the American Psychiatric Association has been publishing practice guidelines for the diagnostic categories of DSM-IV-TR and, as yet, treatment guidelines have been developed for only one of the 10 personality disorder diagnostic categories (i.e., APA 2001). The reason is straightforward: there have been no adequate empirical studies on the treatment of (for instance) the avoidant, schizoid, paranoid, histrionic, narcissistic, obsessive-compulsive, avoidant, or dependent personality disorders. It would be difficult even to find researchers attempting to develop manualized treatment programs for these personality disorders. One reason is perhaps that the DSM-IV-TR personality disorders are generally not well suited for specific and explicit treatment manuals, as each disorder involves a complex constellation of an array of maladaptive personality traits. Persons meeting the diagnostic criteria for the same personality disorder may not even share many of the same traits (Trull & Durrett 2005).

It is not the case that personality is untreatable (Leichsenring & Leibing 2003, Perry & Bond 2000). For example, Knutson et al. (1998)

SSRI: selective serotonin reuptake inhibitor

DBT: dialectical behavior therapy

"examined the effects of a serotonergic reuptake blockade on personality and social behavior in a double-blind protocol by randomly assigning 51 medically and psychiatrically healthy volunteers to treatment with a selective serotonin reuptake inhibitor (SSRI), paroxetine . . . (N = 25), or placebo (N = 26)" (p. 374). Volunteers were recruited through local newspapers. None of them met currently, or throughout their lifetime, the DSM-IV-TR diagnostic criteria for any mental disorder, as assessed with a semistructured interview. None of them had ever received a psychotropic medication, had ever abused drugs, or had ever been in treatment for a mental disorder, nor were any of them currently seeking or desiring treatment for a mental disorder. In other words, they were in many respects above normal in psychological functioning. The paroxetine (and placebo) treatment continued for four weeks. Knutson et al. (1998) reported that the SSRI administration (relative to placebo) significantly reduced scores on a self-report measure of neuroticism. The magnitude of changes even correlated with plasma levels of SSRI within the SSRI treatment group. As concluded by Knutson et al. (1998), this was a clear "empirical demonstration that chronic administration of a selective serotonin reuptake blockade can have significant personality and behavioral effects in normal humans in the absence of baseline depression or other psychopathology" (p. 378). In sum, even normal personality can be altered through pharmacology.

We expect that, building on the initial and innovative effort of Knutson et al. (1998), relatively specific treatment guidelines and manuals can be developed for each of the domains of the FFM. The FFM should prove to have more specific treatment implications than do the existing diagnostic categories. What is evident from the personality disorder treatment research is that treatment does not address or focus on the entire personality structure (Paris 2006). Clinicians treat, for instance, the affective instability, the behavioral dyscontrol, or the self-mutilation of persons diagnosed with borderline personality disorder, which are specific facets of the FFM of personality disorder (see **Table 1** and **Figure 1**). Effective change occurs with respect to these components rather than the entire, global construct. One of the empirically supported treatments for borderline personality disorder (APA 2001) is dialectical behavior therapy (DBT). Research has demonstrated that DBT is an effective treatment for many of the components of this personality disorder, but it is evident to even the proponents of this clinical approach that the treatment is not entirely comprehensive in its effectiveness (Linehan 2000). DBT has been particularly effective with respect to decreasing self-harm and angry hostility, but not with other aspects of borderline psychopathology, such as hopelessness (Scheel 2000), components readily identified in the FFM of personality disorder (see **Figure 1**). It is difficult to imagine clinicians not finding useful a classification system that concerns explicitly their focus of treatment, such as cognitive-perceptual aberrations, anxiousness, emotional dysregulation, intense attachment, meekness, or workaholism (see **Figure 2**).

The factor analytic development of the FFM provides a more conceptually (as well as empirically) coherent structure than the syndromal constellations of traits within the DSM-IV-TR (Lynam & Widiger 2001). Extraversion and agreeableness are domains of interpersonal relatedness, neuroticism is a domain of emotional instability and dysregulation, conscientiousness is a domain of work-related behavior and responsibility, and openness is a domain of cognitive intellect, curiosity, and creativity (Costa & McCrae 1992, Mullins-Sweatt & Widiger 2006). Extraversion and agreeableness are confined specifically to social, interpersonal dysfunction, an area of functioning that is relevant to relationship quality both outside and within the therapy office. Interpersonal models of therapy, marital-family therapy, and group therapy would be confined largely to these two domains, or at least they would have the most specific and explicit implications for this domain. In contrast, neuroticism provides information with respect to mood, anxiety, and

emotional dyscontrol, often targets for pharmacologic interventions (as well as cognitive, behavioral, and psychodynamic interventions). There are very clear pharmacologic implications for mood and anxiety dysregulation and emotional instability (e.g., anxiolytic, antidepressants, and/or mood stabilizers), but little to none for maladaptive antagonism or introversion, the interpersonal domains of the FFM. Maladaptively high openness implies cognitive-perceptual aberrations and would likely have pharmacologic implications that are quite different from those of neuroticism (i.e., neuroleptics). The domain of conscientiousness is, in contrast to agreeableness and extraversion, the domain of most specific relevance to occupational dysfunction, or impairments concerning work and career. Maladaptively high levels involve workaholism, perfectionism, and compulsivity; low levels involve laxness, negligence, and irresponsibility. There might be specific pharmacologic treatment implications for low conscientiousness (e.g., methylphenidates) although, as yet, there are none for maladaptively high conscientiousness. Perhaps there never will be a pharmacotherapy for high conscientiousness, but the point is that the structure of the FFM is commensurate with much more specific treatment implications than are the existing diagnostic categories.

CONCLUSIONS

Work is now beginning on DSM-V. It is hoped that the DSM-V Personality Disorders Work Group and the DSM-V Task Force will appreciate the validity and utility of at least including a model comparable to the one proposed herein. Surprisingly, however, no representative of the FFM perspective was invited to be included on the DSM-V Personality Disorders Work Group. Advantages of an FFM of personality disorder would be a description of abnormal personality functioning with the same model and language used to describe general personality structure. It would address the many fundamental limitations of the categorical model (e.g., heterogeneity within diagnoses, inadequate coverage, lack of consistent diagnostic thresholds, and excessive diagnostic co-occurrence); it would transfer to the psychiatric nomenclature a wealth of knowledge concerning the origins, development, and stability of the dispositions that underlie personality disorder; it would bring with it well-validated and researched instruments and methods of assessment; it would facilitate the development of a more truly universal diagnostic system; and it would represent a significant step toward a rapprochement and integration of psychiatry with psychology.

SUMMARY POINTS

1. The DSM-IV-TR personality disorders can be understood as maladaptive variants of the domains and facets of the FFM, a dimensional model of general personality structure.
2. Personality disorders can be diagnosed in terms of the FFM in four steps. The first is to obtain a hierarchical and multifactorial description of an individual's general personality structure in terms of 30 facets of the FFM. The second is to identify problems in living associated with elevated scores. The third step is to determine whether the impairments reach a clinically significant level that would warrant a diagnosis of personality disorder. The fourth step is optional: a quantitative matching of the individual's FFM personality profile to prototypic profiles of diagnostic constructs.
3. An advantage of integrating the classification of personality disorder with the FFM is development of a uniform classification of personality and personality disorder that would cover both normal and abnormal personality functioning within a single, common structure, bringing to an understanding of personality disorders a considerable amount of basic science research.

4. Openness to experience (or unconventionality) is a significant domain of general personality structure that is relevant to the understanding and diagnosis of personality disorder (including, for instance, cognitive-perceptual aberrations).
5. The assessment of the traits cannot be separated from an assessment of behavior, as behaviors are specific manifestations, illustrations, or expressions of the broader personality traits. The behaviors though can be distinguished with respect to whether they are adaptive or maladaptive.
6. The FFM of personality disorder proposes an explicit and consistent rationale for the diagnosis of a personality disorder, and in a manner that is consistent with the current procedure used for the diagnosis of mental retardation.
7. The abbreviated version of the FFM of personality disorder fails to include all of the maladaptive traits within the complete model, but their potential presence is alerted by elevations on specifically relevant facet scales within each of the five domains.
8. The FFM could have more specific treatment implications than the DSM-IV-TR personality disorders by having more conceptually and empirically homogeneous constructs that were derived in part through factor analytic research.

FUTURE ISSUES

1. Additional research is needed on the potential clinical utility of the FFM of personality disorder. It will be important in this research to consider the method of assessment as well as the constructs that are assessed. This research also needs to consider the potential impact of prior training and experience with the existing diagnostic manual.
2. Additional research is needed on the costs and benefits of a complete FFM description relative to a more abbreviated form. It appears that clinical utility increases as the model becomes more specific, but this also increases the complexity of the model for the clinician.
3. Research is needed on the potential benefits of alternative cutoff points of impairment for different social and clinical decisions (e.g., insurance coverage, disability, hospitalization, and pharmacotherapy). This research will be particularly useful in developing and documenting empirically the potential clinical utility of a dimensional classification of personality disorder.
4. Additional research is needed on the relative benefits and limitations of including openness (unconventionality) within a dimensional model of personality disorder that is integrated with general personality structure.

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