# Integrating Normal and Abnormal Personality Structure:

The Five Factor Model

Thomas A. Widiger

Department of Psychology

University of Kentucky

Paul T. Costa, Jr.

Department of Mental Heath

Johns Hopkins Bloomberg School of Public Health

<u>Author's notes</u>: Correspondence concerning this paper should be addressed to Thomas A. Widiger, Ph.D.,

Department of Psychology, University of Kentucky, Lexington, KY, 40506-0044; 859-257-6849;

<widiger@email.uky.edu>

This is an Accepted Article that has been peer-reviewed and approved for publication in the *Journal of Personality* but has yet to undergo copy-editing and proof correction. Please cite this article as an "Accepted Article"; doi: 10.1111/j.1467-6494.2012.00776.x

# Abstract

It is evident that the conceptualization, diagnosis, and classification of personality disorder is shifting toward a dimensional model. The purpose of this special issue of *Journal of Personality* is to indicate how the five-factor model (FFM) can provide a useful and meaningful basis for an integration of the description and classification of both normal and abnormal personality functioning. This introductory article discusses its empirical support and the potential advantages of understanding personality disorders including those included within the American Psychiatric Association's (APA) Diagnostic and Statistical Manual of Mental Disorders and likely future PDs from the dimensional perspective of the FFM.

## Integrating Normal and Abnormal Personality Structure:

#### The Five Factor Model

The purpose of this special issue of *Journal of Personality* is to indicate how the five-factor model (FFM) of general personality structure might provide the basis for an integration of the description and classification of both normal and abnormal personality. This introductory article begins with a brief description of the FFM and its empirical support, followed by a more detailed description of the FFM and the FFM of personality disorder, empirical support for conceptualizing personality disorders as maladaptive variants of the domains and facets of the FFM, and some of the potential advantages of this reformulation of personality disorder.

The FFM, as assessed by the NEO Personality Inventory-Revised (NEO PI-R; Costa & McCrae, 1992), consists of the five broad domains of neuroticism, extraversion, openness, agreeableness, and conscientious. Each of these five broad domains has been further differentiated into six underlying facets by Costa and McCrae (1995) through the course of their development and validation of the NEO P-R. For example, the facets of agreeableness in the NEO PI-R are trust, straightforwardness, altruism, compliance, modesty, and tender-mindedness.

The FFM does appear to be the predominant dimensional model of general personality structure (Caspi, Roberts, & Shiner, 2005; Deary, Weiss, & Batty, 2011; John & Naumann, 2010; John, Naumann, & Soto, 2008; Ozer & Benet-Martinez, 2006). It has amassed considerable empirical support (McCrae & Costa, 2008). There is compelling multivariate behavior genetic support with respect to the precise structure of the FFM (Yamagata et al., 2006), ties with brain structure (DeYoung, 2010; DeYoung, Quilty, & Peterson, 2007), and even molecular genetic support for neuroticism (Widiger, 2009), albeit the search for the specific genes of personality is a complex and daunting task (McCrae, Scally, Terracciano, Abecasis, & Costa, 2010).

There is extensive data concerning its cross-cultural generalizeability and universality. McCrae (2002) reported on the generalizeability of the five factors across 36 different countries involving five major language families (Indo-European, Uralic, Altaic, Dravidian, and Sino-Tibetian). McCrae et al. (2005)

subsequently replicated the cross-cultural generalization using peer-reports of 11,985 target individuals obtained in 50 different societies. McCrae (2009) has used these findings to indicate how the FFM can provide a meaningful basis to consider personality differences between cultures, both with respect to stereotypic perceptions (perceived national character) and actual individual differences. The largest cross-cultural study to date has been conducted by Schmitt and his colleagues as part of the International Sexuality Description project, which includes 100 scientists from 56 countries. They administered the Big Five Inventory (Benet-Martinez & John, 1998), translated into 29 languages and administered to 17, 837 participants from 56 different countries. Results indicated that the five-dimensional structure was highly robust across major regions of the world, including North America, South America, Western Europe, Eastern Europe, Southern Europe, the Middle East, Africa, Oceania, South-Southeast Asia, and East Asia (Schmitt et al., 2005).

There is also considerable support for the childhood antecedents of the FFM. Soto, John, Golsing, and Potter (2011) report age differences in level of "Big Five" personality domain and facet traits, each single year from ages 10 to 65 obtained from a sample of 1,267, 208 persons. In contrast, there has been limited research on the childhood antecedents of personality disorders. Child and adolescent temperaments are probably among the best candidates as general broadband developmental antecedents for adult personality disorders (Shiner & Caspi, 2003), and a number of temperament researchers now agree that this literature is optimally organized with respect to the FFM (Caspi, Roberts, & Shiner, 2005; Mervielde, De Clercq, De Fruyt, and Van Leeuwen, 2005). De Clercq, De Fruyt, Van Leeuwen, & Mervielde (2006) have extended this work through the development of an instrument to assess maladaptive variants of FFM traits within children and adolescents, paralleling the development of the FFM of personality disorder within adults (Widiger, Costa, & McCrae, 2002). Their initial effort did not include maladaptive variants of the FFM domain of imagination (their childhood variant of FFM openness; Mervielde et al., 2005) but they are now addressing this omission (see De Clercq & De Fruyt, this issue).

The FFM has also been shown across a remarkably vast empirical literature to be useful in predicting a substantial number of important life outcomes, both positive and negative. FFM personality traits have

been shown to be predictive of subjective well-being, social acceptance, relationship conflict, marital status, academic success, criminality, unemployment, physical health, mental health, and job satisfaction (John et al., 2008; Lahey, 2009; Malouff, Thorsteinsson, & Schutte, 2005; Ozer & Benet-Martinez, 2006); even mortality years into the future (Deary et al., 2011; Weiss & Costa, 2005).

One of the strengths of the FFM is its robustness (Mullins-Sweatt & Widiger, 2006). "Personality psychology has been long beset by a chaotic plethora of personality constructs that sometimes differ in label while measuring nearly the same thing, and sometimes have the same label while measuring very different things" (Funder, 2001, p. 2000). However, the FFM has been used effectively in many prior studies and reviews as a basis for comparing, contrasting, and integrating seemingly diverse sets of personality scales (Funder, 2001; McCrae & Costa, 2003). "One of the great strengths of the Big Five taxonomy is that it can capture, at a broad level of abstraction, the commonalities among most of the existing systems of personality traits, thus providing an integrative descriptive model" (John et al., 2008, p.139). Examples include the personality literature concerning gender (Feingold, 1994), temperament (Shiner & Caspi, 2003), temporal stability (Roberts & Del Vecchio, 2000), health psychology (Segerstrom, 2000), and even animal species behavior (Weinstein, Capitano, & Gosling, 2008).

The FFM may also be successful at achieving an integrative classification of normal and abnormal personality functioning, to the benefit of both psychiatry and psychology (Widiger & Trull, 2007).

Personality disorders have been traditionally diagnosed from the perspective of the American Psychiatric Association's (APA) *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV-TR; APA, 2000). The nomenclatures of psychiatry and psychology have long been distinct, with little effort at seeking a common, joint method for conceptualizing normal and abnormal personality (Widiger & Frances, 1985).. Ball edited a special section of *Journal of Personality* in 2001 whose purpose was to facilitate a reconceptualization of personality disorders using personality trait dimensions. As he indicated in his introduction, "the trait model which has most successfully mapped the terrain between personality dimensions and disorders has been the five-factor model" (Ball, 2001, p. 149). Quite a bit of work and research has since occurred. This special issue further extends his prior effort to indicate how the FFM

might indeed provide the basis for an integration of the description and classification of both normal and abnormal personality functioning.

Zapolski, Guiller, and Smith (this issue) provide a discussion of construct validity for a personality disorder classification, articulating in particular the importance of identifying homogeneous trait concepts, such as those within the FFM, rather than heterogeneous personality syndromes, such as those within DSM-IV-TR. As noted earlier, the existing diagnostic nomenclature is rather weak with respect to an understanding of childhood antecedents. De Clerq and De Fruyt (this issue) provide an overview of childhood antecedents of the FFM of personality disorder. One would not expect a measure of normal personality to provide an effective assessment of a personality disorder, yet in most cases of the DSM-IV-TR personality disorder constructs this does in fact appear to occur. Miller (this issue) discusses how personality disorders can be assessed using existing measures of the FFM, and how proposed criterion sets for DSM-5 are modeled closely after the FFM diagnosis of personality disorder (note, the APA is switching from Roman to Arabic numerals for DSM edition identification). To the extent that the DSM-IV-TR personality disorders can be understood as maladaptive variants of the domains and facets of the FFM, it may also be quite useful to develop measures of these personality disorders from the perspective of the FFM. Lynam (this issue) discusses the potential advantages of such measures over existing DSM-IV-TR personality disorders self-report inventories, and describes the current status in the development of these new measures of personality disorder. It has been suggested that a lack clinical utility is the primary reason that the DSM-IV-TR should not be replaced with the FFM of PD. Mullins-Sweatt and Lengel (this issue) address these concerns and discuss the potential clinical utility of an FFM of personality disorder. The particular domains of the FFM for which questions have been raised as to their clinical relevance are high openness, agreeableness, and conscientiousness. Piedmont, Sherman, and Sherman (this issue) addresses the maladaptive variants of both high and low openness. Samuel and Gore (this issue) discuss the maladaptive variants of high conscientiousness and high agreeableness. The next edition of the APA diagnostic manual is currently under construction, and it is evident that DSM-5 is shifting closely to the FFM. DSM-5 is likely to include a five domain dimensional trait model that is well aligned with the FFM, and diagnostic criterion sets heavily weighted in terms of maladaptive variants of FFM personality traits.

Trull (this issue), however, indicates that the alignment could even be closer.

## Five Factor Model

Most models of personality and personality disorder have been developed through the speculations and insights of prominent theorists (Millon, 2011). The development of the FFM was empirical; specifically, through studies of trait terms within existing languages. This lexical paradigm is guided by the compelling hypothesis that what is of most importance, interest, or meaning to persons will be encoded within the language. As Goldberg (1993) has eloquently expressed, each culture's 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 will be those with the greatest number of terms to describe and differentiate their various manifestations and nuances, and the structure of personality will be evident in the empirical relationship among these trait terms (Goldberg, 1993).

The initial lexical studies were conducted on the English language, and these investigations converged well onto a five-factor structure (Goldberg, 1993). Subsequent lexical studies were subsequently conducted on the German, Dutch, Czech, Polish, Russian, Italian, Spanish, Hebrew, Hungarian, Turkish, Korean, Filipino, and other languages, and the findings have supported well the universal existence of the five domains (Ashton & Lee, 2001). Ashton and Lee (2008) have since suggested that, on the basis of lexical research, the traits of honesty and humility should be separated from agreeableness to form their own factor, but De Raad et al. (2010) reanalyzed lexical data of 14 taxonomies from 12 different countries and questioned the validity of a sixth separate factor, at least from the perspective of lexical universality.

Universality of the FFM domains is not terribly surprising when one considers their content. The five broad domains in their typical order of extraction and size are extraversion, agreeableness, conscientiousness, emotional instability, and openness (or intellect). In other words, the two relatively largest domains concern a person's manner of interpersonal relatedness. It is perhaps not surprising that

the domains of personality functioning considered to be relatively most important to persons across all cultures and languages when describing themselves and other persons would concern how persons relate to one another. Many personality disorder theorists have similarly placed considerable emphasis on interpersonal relatedness as providing the core of personality disorder (Pincus, 2005; Pincus, Lukowitzky, & Wright, 2010). FFM agreeableness and extraversion are essentially 45 degree rotations of the axes that define the interpersonal circumplex (IPC) dimensions of agency and communion (Wiggins & Pincus, 1989). All manner of interpersonal relatedness are contained within the IPC and similarly within the FFM domains of agreeableness and extraversion.

The third domain of the FFM typically extracted through lexical research is conscientiousness (otherwise known as constraint; John et al., 2008). This domain concerns the control and regulation of behavior, and contrasts being disciplined, compulsive, dutiful, conscientious, deliberate, workaholic, and achievement-oriented, with being irresponsible, carefree, lax, impulsive, loose, disinhibited, negligent, and hedonistic (Roberts, Jackson, Fayard, Edmonds, & Meints, 2009). It is again perhaps self-evident that all cultures would consider it to be important to describe the likelihood a person will be responsible, conscientious, competent, and diligent as a mate, parent, friend, employee, or colleague (versus being negligent, lax, disinhibited, and incompetent).

The fourth domain typically extracted is neuroticism. This fundamental domain of personality was titled emotional instability by Goldberg (1993) and negative emotionality by Clark and Watson (2008). Emotional instability is clearly of considerable importance to the fields of clinical psychology and psychiatry, saturating most measures of personality disorder, and psychopathology more generally (Lahey, 2009; Widiger, 2009). It is again not surprising that most, and perhaps all, cultures consider the emotional stability (anxiousness, depressiveness, irritability, anger, and vulnerability) of its partners, children, friends, and employees to be of considerable importance.

The fifth domain, openness, intellect, or unconventionality, reflects a culture's or society's interest in creativity, intellect, imagination, and unconventionality. It contrasts being an open, imaginative, creative, unusual, and divergent thinker with being closed-minded, inflexible, and conventional (McCrae, 1987;

McCrae & Sutin, 2009). Tellegen and Waller (1987) described this domain as unconventionality versus conventionality. It is the smallest and least stable of the Big Five lexical domains (De Raad et al., 2010; Goldberg, 1983; McCrae, 1990). Piedmont and Aycock (2007) demonstrated that terms for openness entered the English language centuries after terms for extraversion and agreeableness. The fact that this fifth domain to emerge is the smallest of the five does not mean it is unimportant and should be ignored. It is relatively less important than the two interpersonal domains but it is considered across cultures and languages to be one of the five fundamental domains of personality. As such, the NEO PI-R (Costa & McCrae, 1992) uses just as many items to assess openness as it uses to assess agreeableness and extraversion. If the domain is important enough to include, then it is important enough to be assessed as reliably, validly, and comprehensively as any one of the other four domains of personality functioning.

In theory there is both an adaptive and a maladaptive variant of each pole of the FFM (Widiger et al., 2002). Consider, for example, the facet of trust versus mistrust within the domain of agreeableness versus antagonism. It is generally adaptive and beneficial to be trusting (high in trust) but not to the point of being characteristically gullible (maladaptively high in trust). Similarly, it can also be adaptive and beneficial to be skeptical (low in trust) but not to the point of being characteristically mistrustful and paranoid (maladaptively low in trust). Piedmont, Sherman, Sherman, Dy-Liacco, and Williams (2009; see also Piedmont, this issue) identified maladaptive variants of both high and low openness. The two maladaptive variants of low openness were being superficial and being rigid; the two maladaptive variants of high openness were being odd and eccentric, and being excessively unrestricted.

The English language though is not proportional in the extent to which there are adaptive and maladaptive trait terms within each of the 10 poles of the FFM. For example, there are more ways to be maladaptively antagonistic than maladaptively agreeable. This was demonstrated empirically by Coker, Samuel, and Widiger (2002). Sankis, Corbitt, and Widiger (1999) had persons rate each of the 1,710 trait terms within the English language (Goldberg, 1993) with respect to its desirability. The terms were then organized by Coker et al. with respect to its location within the FFM previously identified by Goldberg. They reported the existence of undesirable trait terms for each pole of each of the five domains, but the

distribution of desirability was not equal. There were substantially more undesirable (and fewer desirable) trait terms for high neuroticism, introversion, closedness to experience, antagonism, and low conscientiousness than for low neuroticism, high extraversion, openness to experience, agreeableness, and conscientiousness. Nevertheless, there were still undesirable ways in which one could be extraverted (e.g., some of these terms were flaunty, showy, and long-winded), agreeable (e.g., ingratiating and dependent), conscientious (e.g., leisureless and stringent), open (e.g., unconventional), and even emotionally stable (e.g., emotionless).

Items within the NEO PI-R closely parallel the uneven distribution of maladaptivity within the language. There are relatively more items keyed in the direction of neuroticism, introversion, closedness to experience, antagonism, and low conscientiousness that assess maladaptive behavior than there are items keyed in the direction of low neuroticism, extraversion, openness, agreeableness, and conscientiousness (Haigler & Widiger, 2001). This does not mean that there are no NEO PI-R items that assess (for instance) maladaptively high conscientiousness. The NEO PI-R does contain a few such items (e.g., "I'm something of a 'workaholic';" Costa & McCrae, 1992, p. 73), but approximately 90% of the conscientiousness items are keyed in the direction of adaptive rather than maladaptive functioning (Haigler & Widiger, 2001). This is one reason that one should not rely solely on scale elevation to diagnose a person with a personality disorder from the perspective of the FFM. Scale elevation alone is insufficient. The same degree of elevation on neuroticism versus (for instance) agreeableness will not have the same implications for maladaptivity (Widiger & Costa, 1994).

Widiger, Costa, and McCrae (2002) provided a list of common problems in living associated with both poles of each of the 30 FFM facets. McCrae, Lockenhoff, and Costa (2005) provided a further extension of this list. Figure 1 provides a brief characterization of both the normal and abnormal variants of each of the 60 poles of the 30 facets of the FFM in terms of the Five Factor Form (FFF), a more elaborated version of the Five Factor Rating Form (FFMRF; Mullins-Sweatt et al., 2006).

# Five Factor Model Diagnosis of Personality Disorder

In a recent survey of members of the International Society for the Study of Personality Disorders and

the Association for Research on Personality Disorders, 80% of the respondents indicated that "personality disorders are better understood as variants of normal personality than as categorical disease entities" (Bernstein et al., 2007, p. 542). It is apparent that the DSM-IV-TR personality disorders, as well as additional maladaptive personality functioning (e.g., psychopathy, alexithymia, and prejudice), are readily understood as maladaptive and/or extreme variants of the domains and facets of the FFM (Clark, 2007; O'Conner 2005; Samuel & Widiger, 2008; Saulsman & Page, 2004). O'Connor (2002) conducted interbattery factor analyses with previously published correlations involving FFM variables and the scales of 28 other normal and abnormal personality inventories published in approximately 75 studies. He concluded that "the factor structures that exist in the scales of many popular inventories can be closely replicated using data derived solely from the scale associations with the FFM" (O'Connor, 2002, p. 198). O'Connor (2002) concluded that "the basic dimensions that exist in other personality inventories can thus be considered 'well captured' by the FFM" (p. 198).

Livesley (2001) concluded on the basis of his review of this research that "all categorical diagnoses of DSM can be accommodated within the five-factor framework" (p. 24). Markon, Krueger, and Watson (2005) conducted meta-analytic as well as exploratory hierarchical factor analyses of numerous measures of normal and abnormal personality functioning, and consistently yielded a five factor solution that they indicated "strongly resembles the Big Five factor structure commonly described in the literature, including Neuroticism, Agreeableness, Extraversion, Conscientiousness, and Openness factors" (p. 144). In sum, DSM-IV-TR personality disorder symptomatology is included within and is readily recovered from the FFM.

The FFM of personality disorder does not suggest that the maladaptive personality traits described within the diagnostic categories of DSM-IV-TR do not exist. There is empirical support for the validity and utility of such personality traits as affective desregulation, paranoid suspiciousness, lack of empathy, arrogance, submissiveness, and attention-seeking, that are currently diagnosed in terms of the DSM-IV-TR personality disorders. The FFM of personality disorder though suggests that the most valid and useful manner in which to describe, assess, and diagnose these traits would be in terms of a dimensional model

that recognizes that they are on a continuum with normal personality functioning (Costa & McCrae, 2010; Widiger & Trull, 2007).

Table 1 provides a description of the DSM-IV-TR personality disorders in terms of the FFM, based on surveys of researchers (Lynam & Widiger, 2001) and clinicians (Samuel & Widiger, 2004), as well as a coding of the DSM-IV diagnostic criteria and text by Widiger, Trull, Clarkin, Sanderson, and Costa (2002). 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 (Widiger & Mullins-Sweatt, 2009). For example, the FFM includes the traits of 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 DSM-IV-TR to include traits that are unique to the widely popular Psychopathy Checklist-Revised (PCL-R; 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 PCL-R, such as low anxiousness and low vulnerability or fearlessness (Hare & Neumann, 2008; Hicklin & Widiger, 2005; Lynam & Widiger, 2007). The FFM 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 (Lowe, Edmundson, & Widiger, 2009; Widiger & Presnall, in press), the perfectionism and workaholism of the obsessive-compulsive (high conscientiousness; Samuel & Widiger, 2011), and the fragile vulnerability and emotional dysregulation of the borderline (Widiger, 2005).

Samuel, Simms, Clark, Livesley, and Widiger (2010) demonstrated empirically through item response theory analysis that the maladaptive personality trait scales of the Dimensional Assessment of Personality

Pathology-Basic Questionnaire (DAPP-BQ; Livesley, 2007) and the Schedule for Nonadaptive and Adaptive Personality (SNAP; Clark, 1993) lie along the same latent traits as those assessed by the NEO PI-R (Costa & McCrae, 1992), the primary distinction being that the DAPP-BQ and SNAP scales have relatively greater fidelity for the assessment of the (maladaptively) extreme variants of FFM traits, whereas the NEO PI-R has relatively greater fidelity for the more normal variants. However, it was also evident from this study that there is considerably more overlap among the scales than differences, due in part to the fact that the NEO PI-R does assess a considerable amount of maladaptivity with respect to high neuroticism, introversion, low openness, antagonism, and conscientiousness. Samuel, Caroll, Rounsaville, and Ball (in press) extended this research to focus specifically on the DSM-IV-TR borderline personality disorder symptomatology. They indicated that the borderline symptoms (e.g., recurrent suicidality) lie along the same latent trait as FFM neuroticism, have relatively greater fidelity for the assessment of the (maladaptively) extreme variants of neuroticism, whereas the NEO PI-R has relatively greater fidelity for the more normal variants.

The purpose of the FFM of personality disorder though is not simply to provide another means of obtaining a DSM-IV-TR categorical diagnosis. The ultimate purpose is to replace the categorical model with a more coherent and comprehensive dimensional description of both normal and abnormal personality functioning. Widiger et al. (2002) proposed a four step procedure for the diagnosis of a personality disorder from the perspective of the FFM (the fourth step though is optional). The first step is to obtain an FFM description of the person. This can be accomplished through a variety of means. The most commonly used measure of the FFM is the NEO PI-R self-report inventory (Costa & McCrae, 1992). However, there are also one-page rating forms that can be used by clinicians (e.g., Five Factor Model Rating Form [FFMRF]; Mullins-Sweatt et al., 2006; and the Five Factor Model Score Sheet [FFMSS]; Miller et al., 2010). Another option is a semi-structured interview (e.g., Structured Interview for the Five Factor Model; SIFFM; Trull, Widiger, & Burr, 2001). The FFMRF, FFMSS, and SIFFM were all modeled after the NEO PI-R. There are also many other alternative measures of the "Big" five fundamental dimensions (De Raad & Perugini, 2002).

Simply describing a person in terms of the FFM is obviously not sufficient to determine whether or not a person has a personality disorder. The second step is to identify the problems in living that are associated with elevations on any respective facet of the FFM. As noted earlier, Widiger et al. (2002) and McCrae et al. (2005) list typical impairments associated with each of the 60 poles of the 30 facets of the FFM (see Figure 1 for an abbreviated listing). The assessment of these impairments is included explicitly within the administration of the SIFFM (Trull et al., 1998). For example, if persons endorse going out of their way to help others (high altruism) they are asked if they do this at the sacrifice of their own needs; if persons endorse confiding in others (high trust) they are asked in the SIFFM if they have ever been mistreated or used by others as a result. Mullins-Sweatt and Widiger (2010) and Hopwood et al. (2009) demonstrated empirically that the coherent structure of the FFM results in relatively specific implications for the three fundamental components of a personality disorder (i.e., distress, social impairment, and occupational impairment; APA, 2000). Social impairment was associated primarily and uniquely with agreeableness and extraversion, distress with neuroticism, and occupational impairment with conscientiousness (cognitive-perceptual impairments were not studied). The only exception to this distinct alignment was a relationship of neuroticism also with social impairment, albeit this is consistent with previous research and expectations (Lahey, 2009).

The third step of the FFM four step procedure is to determine whether the impairments are at a clinically significant level warranting a diagnosis of a personality disorder (Widiger et al., 2002; Widiger & Mullins-Sweatt, 2009). The diagnostic thresholds for most of the DSM-IV-TR personality disorders are not based on any explicit or published rationale. The FFM of personality disorder, in contrast, proposes a uniform and consistent basis for determining when a personality disorder is present, modeled after the fifth axis of DSM-IV-TR, the global assessment of functioning (APA, 2000). A score of 71 or above on global assessment of functioning indicates a normal range of functioning (e.g., problems are transient and expectable reactions to stressors); a score of 60 or below represents a clinically significant level of impairment (moderate difficulty in social or occupational functioning, such as having few friends or significant conflicts with co-workers) (APA, 2000).

The fourth step, statistically-based prototype matching (McCrae, 2008), is an optional step for those who wish to still provide single diagnostic terms (e.g., borderline) to describe a particular patient's personality profile. In this step one obtains a profile matching index of the patient's actual FFM profile with the FFM profile description of a prototypic case. In their editorial opposition to including personality trait approach to diagnosis in DSM-5, Shedler et al. (2010) argued that "mental health professionals think in terms of syndromes or patterns . . . not in terms of deconstructed subcomponents or in terms of 30-plus separate trait dimensions" (p. 1026). The syndromal perspective is well represented by the fourth step, matching a patient's particular constellation of maladaptive personality traits to the FFM description of a prototypic case. The only significant difference between this approach and the prototype matching of Shedler et al. is that FFM prototype matching uses a more reliable and objective statistical method to obtain the match rather than relying solely on a clinician's subjective impression. In any case, the proposed criterion sets for DSM-5 (Skodol, in press) are closely aligned with a simplified version of this fourth step developed by Miller, Bagby, Pilkonis, Reynolds, and Lynam (2005) (see Miller, this issue).

Research has demonstrated that these FFM personality disorder prototype matching indices can at times be just as valid for the assessment of a respective personality disorder as any explicit measure of that personality disorder (Miller & Lynam, 2003; Miller et al., 2008; Trull et al., 2003). Hopwood and Zanarini (2010) reported the latest in a series of prospective studies that directly compared a measure of the FFM with a measure of borderline personality disorder (BPD) in predicting psychosocial functioning across 2, 4, 6, 8, and 10 years. They indicated that "FFM extraversion and agreeableness tended to be most incrementally predictive [over the BPD measure] of psychosocial functioning across all intervals; cognitive and impulse action features of BPD features incremented FFM traits in some models" (Hopwood & Zanarini, 2010, p. 78). It is not surprising that in some cases a more direct measure of a respective personality disorder construct will provide a more valid or clinically useful assessment of maladaptive personality functioning than a measure of normal personality functioning. The FFM of personality disorder does not suggest that the DSM-IV-TR personality disorders are normal personality traits; only that they are maladaptive variants of these normal traits. What is perhaps surprising is how

well a measure of normal personality has performed relative to a measure of abnormal personality in predicting clinically relevant outcomes (Trull et al., 2003). In any case, as noted by Lynam (this issue), measures of abnormal personality functioning from the perspective of the FFM are currently being developed and validated (e.g., Lynam et al., 2011). Further discussion of the FFM prototype matching approach is provided by Miller (this issue).

### Advantages of an FFM of Personality Disorder

Shifting from the diagnostic categories of DSM-IV-TR to the dimensional traits of the FFM will provide a number of improvements and advantages to the existing nomenclature. Some of these will be discussed in turn.

# **Expansion of Coverage**

One of the significant concerns raised with respect to the DSM-IV-TR personality disorder not nomenclature is lack of adequate coverage (Westen & Arkowitz-Westen, 1998). Personality disorder not otherwise specified (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 so often used is a testament to the inadequacy of the existing 10 diagnoses to provide adequate coverage (Verheul & Widiger, 2004). Idiosyncratic constellations of personality traits are addressed well by a dimensional profile of the individual in terms of the 30 facets of the FFM (Widiger & Lowe, 2008). A shift to the FFM would reduce substantially the reliance of clinicians on the catch-all, nondescript PDNOS diagnosis to describe their patients.

In fact, clinicians and researchers interested in studying diagnostic constructs that are outside of the existing nomenclature can use the FFM to provide a reasonably specific description of a clinical construct that is not currently recognized within the diagnostic manual. For example, there has long been an interest in the "successful psychopath;" that is, a psychopathic person who has, to date, evaded arrest and achieved some success in life through the exploitation of others (Hall & Benning, 2006). However, to date, there has been limited empirical research on successful psychopathy. Mullins-Sweatt, Glover, Derefinko, Miller, and Widiger (2010) asked criminal lawyers, forensic psychologists, and clinical

psychology professors to describe a successful psychopath they have known in terms of the FFM. The prototypic psychopath is characterized by a lack of responsibility, negligence, and reckless deliberation (i.e., low in conscientiousness; Miller & Lynam, 2003). The successful psychopath is a person who has the psychopathic traits of antagonism that concern the exploitation and manipulation of others, and the traits of low neuroticism that contribute to the lack of self-consciousness, glib charm, and fearlessness (Lynam & Widiger, 2007), but also traits of high conscientiousness that contribute to an ability to evade exposure and capture.

It is very difficult to get a new personality disorder approved (Pincus, Frances, Davis, First, & Widiger, 1992). A personality disorder diagnosis long proposed for inclusion within the APA diagnostic manual but never actually making the cut has been depressive personality disorder (Bagby, Ryder, & Schuller, 2003), leaving clinicians to use the catchall wastebasket diagnosis of PDNOS to diagnose the condition. The FFM, however, readily accommodates new PD constructs beyond simply the 10 that currently have official recognition. For example, Vachon, Sellbom, Ryder, Miller, and Bagby (2009) asked personality disorder experts to describe a prototypic case of depressive personality disorder in terms of the FFM using the FFMRF (Mullins-Sweatt et al., 2006). Their description converged onto an FFM profile consistency of high depressiveness, anxiousness, vulnerability, and modesty, along with low activity, excitement-seeking, and positive emotions. They indicated how this profile can be used to conduct research on this hypothesized syndrome.

Similar efforts can be made with respect to an understanding of other personality constructs not provided with official APA recognition as a personality disorder. For example, Luminet, Bagby, Wagner, Taylor, and Parker (1999) and Zimmerman, Rossier, de Stadelhofen, and Gaillard (2005) indicate how alexithymia can be understood from the perspective of the FFM. Flynn (2005) described how closeminded prejudice and racism can be understood from the perspective of the FFM. These constructs will not be accommodated within the proposed dimensional model for DSM-5 (Krueger et al., 2011), but they are readily accommodated within the FFM. Of course, the need for an inclusive model will become even more valuable with the proposal by the DSM-5 personality disorder work group to cut from the diagnostic

manual the dependent, schizoid, paranoid, and histrionic personality disorders (Skodol et al., 2011).

Skodol et al. (2011) indicates that the deletion of the four diagnoses is not necessarily a suggestion that the maladaptive personality traits included within the paranoid, schizoid, histrionic, and dependent personality disorders do not exist and should not be recognized within clinical practice. On the contrary, they will still be included within the DSM-5 dimensional model and can be recovered there. Their deletion appears to reflect instead an interest to address a particular failing of the categorical model of classification, the problematic diagnostic co-occurrence. Persons have paranoid, schizoid, histrionic, and dependent traits (hence their inclusion within the dimensional model), but these important clinical concerns are unable to be accommodated within the categorical model of classification.

# Individualized and Precise Description

Step four of the FFM four step procedure is optional because in most cases the most accurate description of a person will be to describe him or her in terms of the 30 facets of the FFM rather than indicating how close he or she is to a particular syndrome. This advantage of the FFM of personality disorder is simply a reflection of it being a dimensional model. Rather than force an individual into a category that will fail to provide a fully accurate description, will fail to represent important personality traits, and will include traits that the person does not in fact have, the FFM allows the clinician to provide an individual-specific profile of precisely the traits that are present. Diagnostic description will then be considerably more accurate, which should have obvious benefits when the personality disorder profile is used for treatment, research, insurance, and other clinical decisions.

For example, trait-specific description will be very helpful for treatment decisions. It is evident from the personality disorder research that treatment does not address or focus on the entire personality structure (Paris, 2006). Clinicians treat instead, 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 (Widiger & Mullins-Sweatt, 2009). Effective change occurs with respect to these components rather than the entire, global construct.

# Homogeneous Trait Constructs

The facet and even the domain constructs of the FFM are considerably more homogeneous than are provided by the personality disorder diagnostic categories. The value of homogeneous diagnostic constructs has long been recognized within psychiatry (Robins & Guze, 1970) but not well appreciated within the field of personality disorders. The DSM-IV-TR diagnostic categories are heterogenous syndromes (Lynam & Widiger, 2001; Trull & Durrett, 2005). Persons can meet diagnostic criteria for the antisocial, borderline, schizoid, schizotypal, narcissistic, and avoidant personality disorders and in each case have only one diagnostic criterion in common. This hinders tremendously the effort to identity a specific etiology, pathology, or treatment for a respective personality disorder as there is so much variation within any particular group of patients sharing the same diagnosis (Smith & Zapolski, 2009). We noted earlier that the FFM has considerably more specific implications with respect to impairment than the existing diagnostic categories (Mullins-Sweatt & Widiger, 2010; Hopwood et al., 2009).

The FFM conceptualization of each personality disorder enables a researcher to disambiguate the construct to determine which particular component of a respective disorder best explains any particular research finding. For example, in the case of schizotypal personality disorder a particular finding could reflect the social withdrawal, the suspiciousness, or the cognitive-perceptual aberrations of schizotypy. Rather than attribute a finding to the broad construct of histrionic personality disorder, one can better understand whether it reflects more specifically the person's neediness for attention, the suggestibility, vanity, or melodramatic emotionality (Tomiatti, Gore, Lynam, Miller, & Widiger, in press). Lynam and Widiger (2007) demonstrated this point with respect to psychopathy, indicating how alternative theories for its core pathology (e.g., response modulation, lack of empathy, or fearlessness) reflect a differential emphasis on its different FFM components (e.g., low conscientiousness, the callousness of antagonism, or the fearlessness of low neuroticism, respectively).

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 disorders (i.e., APA 2001). One reason is that the DSM-IV-TR personality disorders are not well suited for specific and explicit treatment

manuals, as each disorder involves a complex constellation of an array of maladaptive personality traits (Verheul, 2005). The greater construct homogeneity of the FFM domains and facets are much better suited for developing specific treatment recommendations (see Mullins-Sweatt & Lengel, this issue). Inclusion of Normal, Adaptive Traits

An additional advantage of the FFM of personality disorder is the inclusion of normal, adaptive traits (Costa & McCrae, 2010). Personality disorders are among the more stigmatizing within the diagnostic manual. 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. An Axis I mental disorder is something that happens to the person, whereas a personality disorder is who that person is (Millon, 2011). It suggests that who you are and always have been is itself a mental disorder. The FFM of personality disorder, in contrast, 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. In addition, no longer would a personality disorder be conceptualized as something that is qualitatively distinct from normal personality. A personality disorder represents simply the presence of maladaptive variants of personality traits that are evident within all persons.

"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" (Widiger & Mullins-Sweatt, 2009, p. 203). Krueger and Eaton (2010), mirroring these recommendations, extolled the virtues of having a truly integrative model of normal and abnormal personality. They described a person with borderline personality disorder whose high openness and extraversion had important treatment implications. "The high openness might also suggest that this person would be open to a therapeutic approach where depth and underling motives for behavior are explored" (Krueger & Eaton, 2010, p. 102).

## **Improved Construct Validity**

An additional advantage of integrating the classification of personality disorder and normal personality is being able to then bring to the understanding of personality disorders a considerable body of scientific knowledge concerning the assessment, etiology, course, temporal stability, and other matters of construct validity (Widiger & Trull, 2007). As noted earlier, there is substantial empirical support for the construct validity of the FFM (Allik, 2005; Ashton & Lee, 2001; Caspi et al., 2005; Mervielde et al., 2005; Roberts & DelVecchio, 2000; Yamagata et al., 2006), and an ability to predict a wide range of important life outcomes, both positive and negative, such as subjective well-being, social acceptance, relationship conflict, criminality, unemployment, physical health, mental health, and occupation satisfaction (Ozer & Benet-Martinez, 2006). As acknowledged by the Chair of the DSM-5 Personality Disorders Work Group, "similar construct validity has been more elusive to attain with the current DSM-IV personality disorder categories" (Skodol et al., 2005, p. 1923).

Some have suggested that the FFM Is not sufficiently successful in differentially diagnosing the DSM-IV-TR personality disorders (Morey et al., 2001). This concern is ironic, as the DSM-IV-TR personality disorders are inherently overlapping constructs and perhaps can't be truly differentiated into distinct disorders (Clark, 2007). In fact, the DSM-5 personality disorders work group proposal to address diagnostic co-occurrence has been to delete four of the 10 diagnoses in order to reduce the problematic diagnostic co-occurrence (Skodol et al., 2011) rather than make another attempt at differential diagnosis.

Lynam and Widiger (2001) and O'Connor (2005) indicated how the FFM can explain the problematic diagnostic co-occurrence among the DSM-IV-TR personality disorders. Lynam and Widiger had PD researchers describe prototype cases of each DSM-IV-TR personality disorder in terms of the 30 facets of the FFM. They then indicated empirically that the extent to which the personality disorders shared FFM traits explained much of the co-occurrence among the diagnostic categories. The "overlap among FFM profiles reproduced well the covariation obtained for the schizoid, schizotypal, antisocial, borderline, histrionic, narcissistic, avoidant, and compulsive PDs aggregated across several sets of studies" (Lynam & Widiger, 2001, p. 410). In addition, discriminant validity would clearly be better with the factor-

analytically based FFM constructs relative to the explicitly overlapping constructs of the DSM-IV-TR. Samuel and Widiger (2010-a) demonstrated this empirically in a direct comparison of the FFM and DSM-IV-TR models of classification across three methods of assessment: self-report, semi-structured interview, and clinician rating.

Lynam and Widiger (2007) demonstrated that the differential sex prevalence rates obtained for the DSM-IV-TR personality disorders is also similarly explained if these disorders are understood as maladaptive variants of the domains and facets of the FFM. The differential sex prevalence rates for the personality disorders has been a source of controversy, suggesting to some a gender bias in a respective disorder's conceptualization, diagnosis, and/or assessment (Morey, Alexander, & Boggs, 2005). The differential sex prevalence rates that were being obtained were difficult to justify in the absence of any theoretical basis for knowing what differential sex prevalence should be obtained (Widiger & Spitzer, 1991). In contrast, the FFM has proved useful in helping to explain and understand gender differences in personality (Costa, Terracciano, & McCrae, 2001; Feingold, 1994). Lynam and Widiger demonstrated empirically that the differential sex prevalence rates obtained through a meta-analytic aggregation of prior studies was consistent with the sex differences that would be predicted if the personality disorders were understood to be maladaptive variants of the FFM. One exception was for histrionic personality disorder. The FFM conceptualization predicted no differential sex prevalence rate whereas this personality disorder is diagnosed much more frequently in women. However, this finding is perhaps consistent with the fact that histrionic personality disorder has been the most controversial diagnosis with respect to concerns of gender bias. In addition, the FFM profile for histrionic is a mix of traits for which women generally obtain higher scores (e.g., the extraversion facets of gregariousness, activity, and positive emotions) as well as traits for which they usually obtain lower scores (e.g., the extraversion facet of excitement seeking and the neuroticism facet of low self-consciousness), making for a complex prediction of differential sex prevalence. Samuel and Widiger (2009) indicated empirically how a reformulation of the personality disorders in terms of the FFM would help to diminish gender assumptions and stereotypic expectations.

Ozer and Reiss (1994) likened the domains of the FFM to the coordinates of latitude and longitude that

cartographers used to map the world, suggesting that the FFM might as well be useful in comparing and contrasting different personality measures with respect to their relative saturation of these fundamental personality traits. Going beyond simply differentiating the DSM-IV-TR personality disorders from one another (Morey et al., 2001), the FFM has been shown to be useful in comparing and contrasting different measures of the same DSM-IV-TR personality disorders from one another, including the antisocial (Hicklin & Widiger, 2005), dependent (Lowe et al., 2009), narcissistic (Miller & Campbell, 2008; Samuel & Widiger, 2008-a), histrionic (Gore, Tomiatti, & Widiger, 2011), and obsessive-compulsive (Samuel & Widiger, 2010-b). Samuel and Widiger (2010-b), for example, indicated how the Millon Clinical Multiaxial Inventory-III (Millon, Millon, Davis, & Grossman, 2009) provides a strikingly different assessment of obsessive-compulsive personality disorder from other self-report inventories in that its scale correlates negatively with neuroticism whereas all other self-report measures correlate positively (it is also relatively more heavily saturated with conscientiousness, albeit this is also a strong feature of the SNAP assessment). Samuel and Widiger (2008-a) compared and contrasted five alternative measures of narcissism. Among their findings was that the SNAP was confined largely to aspects of antagonism (with no relationship with neuroticism), the MMPI-2 did not appear to include any antagonism (confined to extraversion and low neuroticism), and the MCMI-III included low neuroticism, extraversion, and antagonism.

One of the problematic findings for the DSM-IV-TR personality disorders is inadequate temporal stability. Temporal stability "goes to the heart of how personality traits are conceptualized" (Roberts & DelVecchio, 2000, p. 3). However, empirical support for the temporal stability of personality disorders has been elusive. A special issue of the *Journal of Personality Disorders* was devoted to the apparent failure of longitudinal studies to verify the temporal stability of personality disorders. Livesley (2005) suggested that "probably no other single recent finding on personality disorder has greater implications for classification" (p. 464), as authors of these prospective longitudinal studies have concluded that their results question whether temporal stability should continue to be a defining feature of personality disorder (Skodol et al., 2005).

Temporal stability, however, has been well documented for general personality structure (Roberts & DelVecchio, 2000). The widely published Collaborative Longitudinal Personality Disorders Study (Skodol et al., 2005) has included assessments of FFM general personality structure, and results have suggested that "traits of general personality functioning (e.g., Five-Factor traits) tend to be stable, with stability estimates in the r = .70 to .80 range over two years" (p. 495). In fact, in a direct comparison of the FFM with DSM-IV-TR personality disorders, change in FFM traits predicted change in personality disorder, but not vice versa. As concluded by the authors of this study, this finding "supports the contention that personality disorders stem from particular constellations of personality traits" (Warner et al., 2004, pp. 222-223).

Another difficult issue for the DSM-IV-TR nomenclature is the lack of adequate support for its universality (Mulder, in press). Neither schizotypal personality disorder nor narcissistic personality disorder are recognized within the World Health Organization's (1992) International Classification of Diseases (schizotypal is classified as a variant of schizophrenia rather than as a personality disorder). As noted earlier, there is compelling empirical support for the generalizability of the FFM (McCrae et al., 2005). Campbell, Miller, and Buffardi (2010) used the McCrae et al. (2005) findings on the FFM profiles obtained for over 50 cultures, along with the Lynam and Widiger (2001) FFM profiles for each of the DSM-IV-TR personality disorders, to provide information concerning the extent to which each personality disorder is evident within each respective culture. They confirmed the common perception that citizens of the United States are perceived to be more narcissistic than members of other cultures, and may in fact be more narcissistic.

#### Conclusions

The FFM of personality disorder provides a reasonably comprehensive integration of normal and abnormal personality within a common hierarchical structure. The FFM provides a description of abnormal personality functioning within the same model and language used to describe general personality structure. It addresses 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 provides a more comprehensive and individually specific description of each patient's normal and abnormal personality structure, thereby facilitating more precise and informative research concerning etiology and pathology, and more specific and distinct treatment decisions. Finally, it transfers to the psychiatric nomenclature a wealth of knowledge concerning the origins, childhood antecedents, stability, and universality of the dispositions that underlie personality disorder.

Concerns and objections, however, have been raised with respect to conceptualization of the DSM-IV-TR personality disorders from the perspective of the FFM. The most significant of these concerns will be addressed in articles included within this special issue. For example, concerns have been raised with respect to whether traits of peculiarity, oddity, and/or cognitive-perceptual aberrations are maladaptive variants of FFM openness (Watson, Clark, & Chmielewski, 2008). These are acknowledged and addressed in the article by Piedmont et al. (this issue), as well as by De Clerq and De Fruyt (this issue). Questions have also been raised as to whether compulsivity is a maladaptive variant of FFM conscientiousness and submissiveness a maladaptive variant of agreeableness (Krueger et al., 2011). These are discussed in the articles by Samuel and Gore (this issue) and Trull (this issue). Finally, concerns have also been raised with respect to the clinical utility of any dimensional trait model of personality disorder (Shedler et al., 2010). These are discussed in the article by Mullins-Sweatt and Lengel (this issue), as well as by Zapolski et al. (this issue).

#### References

- Allik, J. (2005). Personality dimensions across cultures. Journal of Personality Disorders, 19, 212-232.
- Ball, S. A. (2001). Reconceptualizing personality disorder categories using personality trait dimensions: Introduction to special section. *Journal of Personality*, 69, 147-153.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders. Text revision* (4th ed., rev. ed.). Washington, DC: Author.
- American Psychiatric Association. (2001). *Practice guidelines for the treatment of patients with borderline personality disorder*. Washington, DC, American Psychiatric Association.
- Ashton, M. C. & Lee, K. (2001). A theoretical basis for the major dimensions of personality. *European Journal of Personality*, 15, 327-353.
- Ashton, M. C., & Lee, K. (2008). The prediction of honesty-humility-related criteria by the HEXACO and five-factor models of personality. *Journal of Research in Personality*. 42, 1216-1228.
- Bagby, R. M., Ryder, A. G., & Schuller, M. D. (2003). Depressive personality disorder: A critical overview. *Current Psychiatric Reports*, 5, 16-22.
- Benet-Martinez, V., & John, O.P. (1998). Los cinco grandes across cultures and ethnic groups: multitrait multimethod analysis of the Big Five in Spanish and English. *Journal of Personality and Social Psychology*, 75, 729-750.
- Bernstein, D. P., Iscan, C., & Maser, J. (2007). Opinions of personality disorder experts regarding the DSM-IV personality disorders classification system. *Journal of Personality Disorders* 21, 536-551.
- Campbell, W. K., Miller, J. D., & Buffard, L. E. (2010). The United States and the culture of "narcissism"; an examination of perceptions of national character. *Social Psychological and Personality Science*, *1*, 222-229.
- Caspi, A., Roberts, B. W., & Shiner, R. L. (2005). Personality development: stability and change. *Annual Review of Psychology*, 56, 453-484.
- Clark, L. A. (1993). *Manual for the Schedule for Nonadaptive and Adaptive Personality (SNAP)*. Minneapolis, MN: University of Minnesota Press.

- Clark, L. A. (2007). Assessment and diagnosis of personality disorder: Perennial issues and an emerging reconceptualization. *Annual Review of Psychology*, *57*, 227-257.
- Clark, L. A., & Watson, D. (2008). Temperament: an organizing paradigm for trait psychology. In O. P. John, R. W. Robins, & L. A. Pervin (Eds.), *Handbook of personality. Theory and Research* (3<sup>rd</sup> ed., pp. 265-286). NY: Guilford.
- Cleckley, H. (1941). The mask of sanity. St. Louis, MO: C.V. Mosby
- Coker, L. A., Samuel, D. B., & Widiger, T. A. (2002). Maladaptive personality functioning within the Big Five and the FFM. *Journal of Personality Disorders*, *16*, 385-401.
- Costa, P. T., & McCrae, R. R. (1992). Revised NEO Personality Inventory (NEO PI-R) and NEO Five-Factor Inventory (NEO-FFI) professional manual. Odessa, FL: Psychological Assessment Resources.
- Costa, P. T., & McCrae, R. R. (1995). Domains and facets: Hierarchical personality assessment using the Revised NEO Personality Inventory. *Journal of Personality Assessment*, 64, 21-50.
- Costa, P. T., & McCrae, R. R. (2010). Bridging the gap with the five factor model. *Personality Disorders:*Theory, Research, and Treatment, 1, 127-130.
- Costa, P. T., Terracciano, A., & McCrae, R. R. (2001). Gender differences in personality traits across cultures: robust and surprising findings. *Journal of Personality and Social Psychology*, 81, 322-331.
- Deary, I. J., Weiss, A., & Batty, G. D. (2011). Intelligence and personality as predictors of illness and death: how researchers in differential psychology and chronic disease epidemiology are collaborating to understand and address health inequalities. *Psychological Science in the Public Interest*, 11, 2, 53-79.
- De Clerq, B., & De Fruyt, F. (this issue). A five-factor model framework for understanding childhood personality disorder antecedents. *Journal of Personality*.
- De Clercq, B., De Fruyt, F., Van Leeuwen, K., & Mervielde, I. (2006). The structure of maladaptive personality traits in childhood: A first step toward an integrative developmental perspective for DSM-V. *Journal of Abnormal Psychology*, 115, 639-657.
- De Raad, B., & Perugini, M. (Eds.). (2002). Big five assessment. Bern, Switzerland: Hogrefe & Huber.
- De Raad, B., Barelds, D. P. H., Levert, E., Ostendorf, F., Mlacic, B., Blais, L. D., Hrebickova, M., Szirmak,

- Z., Szarota, P., Perugini, M., Church, A. T., & Katigbak, M. S. (2010). Only three factors of personality description are fully replicable across languages: A comparison of 14 trait taxonomies. *Journal of Personality and Social Psychology*, 98, 160-173.
- DeYoung, C. G. (2010). Personality neuroscience and the biology of traits. *Social and Personality Psychology Compass*, *4*, 1165-1180.
- DeYoung, C. G., Quilty, L. C., & Peterson, J. B. (2007). Between facets and domains: 10 aspects of the Big Five. *Journal of Personality and Social Psychology*, *93*, 880-896.
- Feingold, A. (1994). Gender differences in personality: a meta-analysis. *Psychological Bulletin*, 116, 429-456.
- Flynn, F. J. (2005). Having an open mind: the impact of openness to experience on interracial attitudes and impression formation. *Journal of Personality and Social Psychology*, 88, 816-826.
- Funder, D.C. (2001). Personality. Annual Review of Psychology, 52, 197-221.
- Goldberg, L. R. (1993). The structure of phenotypic personality traits. American Psychologist, 48, 26-34.
- Gore, W. L., Tomiatti, M., & Widiger, T. A. (2011). The home for histrionism. *Personality and Mental Health*, 5, 57-72.
- Haigler, E. D., & Widiger, T. A. (2001). Experimental manipulation of NEO PI-R items. *Journal of Personality Assessment*, 77, 339-358.
- Hall, J. R. & Benning, S. D. (2006). The "successful" psychopath: Adaptive and subclinical manifestations of psychopathy in the general population. In C. J. Patrick (Ed), *Handbook of psychopathy* (pp. 459-478).
  New York: Guilford.
- Hare, R.D., & Neumann, C.S.(2008). Psychopathy as a clinical and empirical construct. *Annual Review of Clinical Psychology*, 4, 217-246.
- Helzer, J. E., Wittchen, H-U., Krueger, R. F., & Kraemer, H. C. (2008). Dimensional options for DSM-V: the way forward. In J. E. Helzer, H. C. Kraemer, R. F. Krueger, H-U. Wittchen, P. J. Sirovatka, & D. A. Regier (Eds.), *Dimensional approaches to diagnostic classification. Refining the research agenda for DSM-V* (pp. 115-127). Washington, DC: American Psychiatric Association.
- Hicklin, J., & Widiger, T. A. (2005). Similarities and differences among antisocial and psychopathic

- personality inventories from the perspective of general personality functioning. *European Journal of Personality*, 19, 325-342.
- Hopwood, C. J., & Zanarini, M. C. (2010). Borderline personality traits and disorder: predicting prospective patient functioning. *Journal of Consulting and Clinical Psychology*, 78, 585-589.
- Hopwood, C. J., Morey, L. C., Ansel, E. B., Grilo, C. M., Sanislow, C. A., McGlashan, T. H., Markowitz, J. C. Gunderson, J. G., Yen, S., Tracie, M. T., & Skodol, A. (2009). The convergent and discriminant validity of Five-Factor traits: Current and prospective social, work, and recreational dysfunction. *Journal of Personality Disorder*, 23, 466-476.
- John, O. P., & Naumann, L. P. (2010). Surviving two critiques by Block? The resilient Big Five have emerged as the paradigm for personality trait psychology. *Psychological Inquiry*, *21*, 44-49.
- John, O. P., Naumann, L. P., & Soto, C. J. (2008). Paradigm shift to the integrative Big Five trait taxonomy: History, measurement, and conceptual issues. In O. P. John, R. R. Robins, & L. A. Pervin (Eds.), Handbook of personality. Theory and research (3<sup>rd</sup>. ed., pp. 114-158). NY: Guilford.
- Krueger, R. F., & Eaton, N. R. (2010). Personality traits and the classification of mental disorders: toward a complete integration in DSM-V and an empirical model of psychopathology. *Personality Disorders:*Theory, Research, and Treatment, 1, 97-118.
- Krueger, R. F., Eaton, N. R., Clark, L. A., Watson, D., Markon, K. E., Derringer, J., Skodol, A., & Livesley,
  W. J. (2011). Deriving an empirical structure of personality pathology for *DSM-5*. *Journal of Personality Disorders*, 25, 170-191.
- Krueger, R. F., Skodol, A. E., Livesley, W. J., Shrout, P. E., & Huang, Y. (2008). Synthesizing dimensional and categorical approaches to personality disorders: refining the research agenda for DSM-IV Axis II. In J.E. Helzer, H.C. Kraemer, R.F. Krueger, H-U. Wittchen, P.J. Sirovatka, & D.A. Regier (Eds.), *Dimensional approaches to diagnostic classification. Refining the research agenda for DSM-V* (pp. 85-100). Washington, DC: American Psychiatric Association.
- Lahey, B. B. (2009). Public health significance of neuroticism. American Psychologist, 64, 241-256.
- Livesley, W. J. (2001). Conceptual and taxonomic issues. In W. J. Livesley (Ed.), Handbook of personality

- disorders. Theory, research, and treatment (pp. 3-38). NY: Guilford.
- Livesley, W.J. (2005). Introduction to the special issue on longitudinal studies. *Journal of Personality Disorders*, 19, 463-465.
- Livesley, W. J. (2007). A framework for integrating dimensional and categorical classification of personality disorder. *Journal of Personality Disorders*, 21, 199-224.
- Lowe, J. R., Edmundson, M., & Widiger, T. A. (2009). Assessment of dependency, agreeableness, and their relationship. *Psychological Assessment*, *21*, 543-553.
- Luminet, O., Bagby, R. M., Wagner, H., Taylor, G. J., & Parker, J. D. A. (1999). The relationship between alexithymia and the five factor model of personality: A facet level analysis. *Journal of Personality Assessment*, 73, 345-358.
- Lynam, D. R. (this issue). Assessment of maladaptive variants of five-factor model traits. *Journal of Personality*.
- Lynam, D. R., Gaughan, E.T., Miller, J. D., Miller, D. J., Mullins-Sweatt, S., & Widiger, T. A. (2011).

  Assessing the basic traits associated with psychopathy: Development and validation of the Elemental Psychopathy Assessment. *Psychological Assessment*, 23, 108-124.
- Lynam, D. R., & Widiger, T. A. (2001). Using the five factor model to represent the DSM-IV personality disorders: An expert consensus approach. *Journal of Abnormal Psychology*, 110, 401-412.
- Lynam, D. R., & Widiger, T. A. (2007). Using a general model of personality to identify the basic elements of psychopathy. *Journal of Personality Disorders*, 21, 160-178
- Lynam, D. R., & Widiger, T. A. (2007). Using a general model of personality to understand sex differences in the personality disorders. *Journal of Personality Disorders*, 21, 583-602.
- Malouff, J.M. Thorsteinsson, E.B., & Schutte, N.S. (2005). The relationship between the five-factor model of personality and symptoms of clinical disorders: a meta-analysis. *Journal of Psychopathology and Behavioral Assessment*, 27, 101-114.
- Markon, K. E., Krueger, R. F., & Watson, D. (2005). Delineating the structure of normal and abnormal personality: An integrative hierarchical approach. *Journal of Personality and Social Psychology*, 88, 139-

- McCrae, R. R. (1987). Creativity, divergent thinking, and Openness to Experience. *Journal of Personality and Social Psychology*, 52, 1258-1265.
- McCrae, R. R. (1990). Traits and trait names: how well is openness represented in natural languages? European Journal of Personality, 4, 119-129.
- McCrae, R. R. (2002). NEO PI-R data from 36 cultures. In R.R. McCrae & J. Allilk (Eds.), *The five-factor model of personality across cultures* (pp. 105-125). NY: Kluwer Academic.
- McCrae, R. R. (2008). A note on some measures of profile agreement. *Journal of Personality Assessment*, 90, 105-109.
- McCrae, R. R. (2009). Personality profiles of cultures: patterns of ethos. *European Journal of Personality*, 23, 205-227.
- McCrae, R. R., & Costa, P. T. (2003). Personality in adulthood. A five-factor theory perspective (2<sup>nd</sup> ed.). NY: Guilford.
- McCrae, R. R., Lockenhoff, C. E., & Costa, P. T., Jr. (2005). A step toward DSM-V: Cataloguing personality-related problems in living. *European Journal of Personality*, 19, 269-286.
- McCrae, R, R., Scally, M., Terracciano, A., Abecasis, G. R., & Costa, P. T. (2010). An alternative to the search for single polymorphisms: toward molecular personality scales for the five-factor model. *Journal of Personality and Social Psychology*, 99, 1014-1024.
- McCrae, R. R., & Sutin, A. (2009). Openness to experience. In M. R. Leary & R. H. Hoyle (Eds.), *Handbook of individual differences in social behavior* (pp. 257-273). NY: Guilford.
- McCrae, R. R., Terracciano, A., and Members of the Personality Profiles of Cultures Project. (2005).

  Universal features of personality traits from the observer's perspective: Data from 50 cultures. *Journal of Personality and Social Psychology*, 88, 547-561.
- Mervielde, I., De Clercq, B., De Fruyt, F., & Van Leeuwen, K. (2005). Temperament, personality and developmental psychopathology as childhood antecedents of personality disorders. *Journal of Personality Disorders*, 19, 171-201.

- Miller, J. D. (this issue) Five-factor model personality disorder prototypes: A review of their development, validity, and comparison to alternative approaches. *Journal of Personality*.
- Miller, J. D., Bagby, R. M., Pilkonis, P. A., Reynolds, S. K., & Lynam, D. R. (2005). A simplified technique for scoring the DSM-IV personality disorders with the five-factor model. *Assessment*, 12, 404-415.
- Miller, J. D. & Campbell, W. K. (2008). Comparing clinical and social-personality conceptualizations of narcissism. *Journal of Personality*, 76, 449-476.
- Miller, J. D., & Lynam, D. R. (2003). Psychopathy and the five-factor model of personality: a replication and extension. *Journal of Personality Assessment*, 81, 168-178.
- Miller, J. D., Lynam, D. R., Rolland, J. P., De Fruyt, F., Reynolds, S. K., Pham-Scottez, A., Baker, S. R.,
  Bagby, R. M. (2008). Scoring the DSM-IV personality disorders using the five-factor model:
  Development and validation of normative scores for North American, French, and Dutch-Flemish samples. *Journal of Personality Disorders*, 22, 433-450.
- Miller, J. D., Maples, J., Few, L. R., Morse, J. Q., Yaggi, K.E., & Pilkonis, P. A. (2010). Using clinician-rated five-factor model data to score the DSM-IV personality disorders. *Journal of Personality Assessment*, 92, 296-305.
- Millon, T. (2011). *Disorders of personality. Introducing a DSM/ICD Spectrum from Normal to Abnormal* (3<sup>rd</sup> ed.). NY: John Wiley & Sons.
- Millon, T., Millon, C., Davis, R., & Grossman, S. (2009). *MCMI-III manual* (4<sup>th</sup> ed.). Minneapolis, MN: Pearson.
- Morey, L. C., Alexander, G. M., & Boggs, C. (2005). Gender and personality disorder. In J. Oldham, A. Skodol & D. Bender (Eds.), *Textbook of personality disorders* (pp. 541-554). Washington, D C: American Psychiatric Press.
- Morey, L. C., Gunderson, J. G., Quigley, B. D., Shea, M. T., Skodol, A. E., McGlashan, T. H., Stout, R. L., & Zanarini, M. C. (2002). The representation of borderline, avoidant, obsessive-compulsive, and schizotypal personality disorders by the five-factor model. *Journal of Personality Disorders*, 16, 215-234.
- Mulder, R. (in press). Cultural aspects of personality disorder. In T. A. Widiger (Ed.), Oxford handbook of

- personality disorders. NY: Oxford University Press.
- Mullins-Sweatt, S. N., & Lengel, G. J. (this issue). Clinical utility of the five-factor model of personality disorder. *Journal of Personality*.
- Mullins-Sweatt, S. N., Glover, N., Derefinko, K. J., Miller, J. D., & Widiger, T. A. (2010). The search for the successful psychopath. *Journal of Research in Personality*, 44, 559-563.
- Mullins-Sweatt, S. N., Jamerson, J. E., Samuel, S. B., Olson, D. R., & Widiger, T. A. (2006). Psychometric properties of an abbreviated instrument for the assessment of the five factor model. *Assessment*, *13*, 119-137.
- Mullins-Sweatt, S. N., & Widiger, T. A. (2006). The five-factor model of personality disorder: a translation across science and practice. In R. F. Krueger & J. L. Tackett (Eds.), *Personality and psychopathology* (pp. 39-70). NY: Guilford.
- Mullins-Sweatt, S. N., & Widiger, T. A. (2010). Personality-related problems in living: an empirical approach.

  Personality Disorders: Theory, Research, and Treatment, 1, 230-238.
- O'Connor, B. P. (2002). A quantitative review of the comprehensiveness of the five-factor model in relation to popular personality inventories. *Assessment*, *9*, 188-203.
- O'Connor, B. P. (2005). A search for consensus on the dimensional structure of personality disorders. *Journal of Clinical Psychology*, *61*, 323-345.
- Ozer, D. J. & Benet-Martinez, V. (2006). Personality and the prediction of consequential outcomes. *Annual Review of Psychology*, 57, 401-421.
- Ozer, D. J. & Reise, S. P. (1994). Personality assessment. Annual Review of Psychology, 45, 357-388.
- Paris, J. (2006). *Personality disorders: psychiatry's stepchildren come of age*. Invited address at the 159<sup>th</sup> Annual Meeting of the American Psychiatric Association, Toronto, Canada.
- Piedmont, R. L., Sherman, M. F., & Sherman, N. C. (this issue). Maladaptively high and low openness: the case for experiential permeability. *Journal of Personality*.
- Piedmont, R. L., & Aycock, W. (2007). An historical analysis of the lexical emergence of the Big Five personality adjective descriptors. *Personality and Individual Differences*, 42, 1059-1068.

- Piedmont, R. L., Sherman, M. F., Sherman, N. C., Dy-Liacco, G. S., & Williams, J. E. (2009). Using the five-factor model to identify a new personality disorder domain: the case for experiential permeability.

  \*\*Journal of Personality and Social Psychology, 96, 1245-1258.\*\*
- Pincus, A. L. (2005). The interpersonal nexus of personality disorders. In S. Strack (Ed.), *Handbook of personology and psychopathology* (pp. 120-139). NY: Wiley.
- Pincus, A. L., Lukowitsky, M. R., & Wright, A. G. C. (2010). The interpersonal nexus of personality and psychopathology. In T. Millon, R. F. Krueger, & E. Simonsen (Eds.), *Contemporary directions in psychopathology: Scientific foundations for the DSM-V and ICD-11* (pp. 523-552). NY: Guilford.
- Pincus, H. A., Frances, A. J., Davis, W., First, M. B., & Widiger, T. A. (1992). DSM-IV and new diagnostic categories: Holding the line on proliferation. *American Journal of Psychiatry*, *149*, 112-117.
- Robins, E., & Guze, S. B. (1970). Establishment of diagnostic validity in psychiatric illness: its application to schizophrenia. *American Journal of Psychiatry*, *126*, 107-111.
- Roberts, B. W., & DelVecchio, W. F. (2000). The rank-order consistency of personality traits from childhood to old age: A quantitative review of longitudinal studies. *Psychological Bulletin*, 126, 3-25.
- Roberts, B. W., Jackson, J. J., Fayard, J. V., Edmonds, G., & Meints, J. (2009). Conscientiousness. In M. R. Leary & R. H. Hoyle (Eds.), *Handbook of individual differences in social behavior* (pp. 369-381). NY: Guilford.
- Samuel, D. B., Carroll, K. M., Rounsaville, B. & Ball, S. A. (in press). Personality disorders as maladaptive, extreme variants of normal personality: borderline personality disorder and neuroticism in a substance using sample. *Journal of Personality Disorders*.
- Samuel, D. B., & Gore, W. L. (this issue). Maladaptive variants of conscientiousness and agreeableness. *Journal of Personality*.
- Samuel, D. B., Simms, L. J., Clark, L. A., Livesley, W. J., & Widiger, T. A. (2010). An item response theory integration of normal and abnormal personality scales. *Personality disorders: Theory, Research, and Treatment*, 1, 5-21.
- Samuel, D. B., & Widiger, T.A. (2004). Clinicians' descriptions of prototypic personality disorders.

- Journal of Personality Disorders, 18, 286-308.
- Samuel, D. B., & Widiger, T. A. (2008-a). Convergence of narcissism measures from the perspective of general personality functioning. *Assessment*, *15*, 364-374.
- Samuel, D. B., & Widiger, T. A. (2008-b). A meta-analytic review of the relationships between the five-factor model and DSM-IV-TR personality disorders: a facet level analysis. *Clinical Psychology Review*, 28, 1326-1342.
- Samuel, D. B., & Widiger, T. A. (2009). Comparative gender biases in models of personality disorder.

  Personality and Mental Health, 3, 12-25.
- Samuel, D. B., & Widiger, T. A. (2010-a). Comparing personality disorder models: Cross-method assessment of the FFM and DSM-IV-TR. *Journal of Personality Disorders*, 24(6), 721-745.
- Samuel, D. B., & Widiger, T. A. (2010-b). A comparison of obsessive-compulsive personality disorder scales. *Journal of Personality Assessment*, 92, 232-240.
- Samuel, D. B., & Widiger, T. A. (2011). Conscientiousness and obsessive-compulsive personality disorder.

  Personality Disorders: Theory, Research, and Treatment, 2, 161-174.
- Samuel, D. B., & Widiger, T. A. (in press). Comparing personality disorder models: Cross-method assessment of the FFM and DSM-IV-TR. *Journal of Personality Disorders*.
- Sankis, L. M., Corbitt, E. M., & Widiger, T. A. (1999). Gender bias in the English language? *Journal of Personality and Social Psychology*, 6, 1289-1295.
- Schmitt, D.P., Alcalay, L., Allik, J., Ault, L., Austers, I., Bennett, K.L., . . . & Zupaneie, A. (2003). Universal sex differences in the desire for sexual variety: Tests from 52 nations, 6 continents, and 13 islands.

  \*\*Journal of Personality and Social Psychology, 85, 85-104.
- Segerstrom, S. C. (2000). Personality and the immune system: Models, methods, and mechanisms. *Annals of Behavioral Medicine*, 22, 180-190.
- Shedler, J., Beck, A., Fonagy, P., Gabbard, G. O., Gunderson, J.G., Kernberg, O., Michels, R., & Westen, D. (2010). Personality disorders in DSM-5. *American Journal of Psychiatry*, 167, 1027-1028.
- Shiner, R. L., & Caspi, A. (2003). Personality differences in childhood and adolescence: Measurement,

- development, and consequences. Journal of Child Psychology and Psychiatry, 44, 2-32.
- Skodol, A. E. (in press). Personality disorders in DSM-5. Annual Review of Clinical Psychology.
- Skodol, A. E., Bender, D. S., Morey, L. C., Clark, L. A., Oldham, J. M., Alarcon, R. D., Krueger, R. F.,
  Verheul, R., Bell, C. C., & Siever, L. J. (2011). Personality disorder types proposed for DSM-5. *Journal of Personality Disorders*, 24, 136-169.
- Skodol, A. E., Gunderson, J. G., Shea, M. T., McGlashan, T. H., Morey, L. C., Sanislow, C. A., Bender, D. S., Grilo, C. M., Zanarini, M. C., Yen, S., Pagano, M. E., & Stout, R. L. (2005). The Collaborative Longitudinal Personality Disorders Study (CLPS): Overview and implications. *Journal of Personality Disorders*, 19, 487-504.
- Smith, G. G., & Zapolski, T. C. B. (2009). Construct validation of personality measures. In J. N. Butcher (Ed.), Oxford Handbook of Personality Assessment. New York: Oxford University Press, pp. 81-98.
- Soto, C. J., John, O. P., Gosling, S. D., & Potter, J. (2011). Age differences in personality traits from 10 to 65:

  Big five domains and facets in a large cross-cultural sample. *Journal of Personality and Social Psychology*, 100, 330-348.
- Tellegen, A., & Waller, N. G. (1987). Exploring personality through test construction: Development of the Multidimensional Personality Questionnaire. Unpublished manuscript, Minneapolis, Minnesota.
- Tomiatti, M., Gore, W. L., Lynam, D. R., Miller, J. D., & Widiger, T. A. (in press). A five-factor measure of histrionic personality traits. In Nadya Gotsiridze-Columbus (Ed.). *Psychological assessment*. Hauppage, NY: Nova Science Publishers.
- Trull, T. J. (this issue). The five-factor model of personality disorder and DSM-5. Journal of Personality.
- Trull, T. J., & Durrett, C. A. (2005). Categorical and dimensional models of personality disorder. *Annual Review of Clinical Psychology*, 1, 355-380.
- Trull, T. J., Widiger, T. A., & Burr, R. (2001). A structured interview for the assessment of the Five Factor Model of personality: Facet-level relations to the Axis II personality disorders. *Journal of Personality*, 69, 175-198.
- Trull, T. J., Widiger, T. A, Lynam, D. R., & Costa, P. T. (2003). Borderline personality disorder from the

- perspective of general personality functioning. Journal of Abnormal Psychology, 112, 193-202.
- Trull, T. J., Widiger, T. A., Useda, J. D., Holcomb, J., Doan, B-T., Axelrod, S. R., Stern, B. L., & Gershuny,
  B. S. (1998). A structured interview for the assessment of the five-factor model of personality.
  Psychological Assessment, 10, 229-240.
- Vachon, D. D., Sellbom, M., Ryder, A. G., Miller, J. D., & Bagby, R. M. (2009). A five-factor description of depressive personality disorder. *Journal of Personality Disorders*, 23, 447-465.
- Verheul, R. (2005). Clinical utility for dimensional models of personality pathology. *Journal of Personality Disorders*, 19, 283-302
- Warner, M. B., Morey, L. C., Finch, J. F., Gunderson, J. G., Skodol, A. E., Sanislow, C. A., Shea, M. T., McGlashan, T. H., & Grilo, C. M. (2004). The longitudinal relationship of personality traits and disorders. *Journal of Abnormal Psychology*, 113, 217-227.
- Watson, D., Clark, L. A., & Chmielewski, M. (2008). Structures of personality and their relevant to psychopathology: II. Further articulation of a comprehensive unified trait structure. *Journal of Personality*, 76, 1485-1522.
- Weinstein, T. R., Capitanio, J. P., & Gosling, S. D. (2008). Personality in animals. In O. P. John, R. W. Robins, & L. A. Pervin (Eds.), *Handbook of personality* (3<sup>rd</sup> ed., pp. 328-348). NY: Guilford.
- Weiss, A., & Costa, P. T. (2005). Doman and facet personality predictors of all-cause mortality among medicate patients aged 65 to 100. *Psychosomatic Medicine*, 67, 724-733.
- Westen, D., & Arkowitz-Westen, L. (1998). Limitations of Axis II in diagnosing personality pathology in clinical practice. American Journal of Psychiatry, 155, 1767-1771.
- Widiger, T. A. (2001). Social anxiety, social phobia, and avoidant personality disorder. In W.R. Corzier & L. Alden (Eds.), *International handbook of social anxiety* (pp. 335-356). NY: Wiley.
- Widiger, T. A. (2005). A temperament model of borderline personality disorder. In M. Zanarini (Ed.). Borderline personality disorder (pp. 63-81). Boca Raton, Florida: Taylor & Francis.
- Widiger, T. A. (2009). Neuroticism. In M. R. Leary and R.H. Hoyle (Eds.), *Handbook of individual differences in social behavior* (pp. 129-146). NY: Guilford.

- Widiger, T. A., & Costa, P. T. (1994). Personality and personality disorders. *Journal of Abnormal Psychology*, 103, 78-91.
- Widiger, T. A., Costa, P. T., & McCrae, R. R. (2002). A proposal for Axis II: Diagnosing personality disorders using the five factor model. In P.T. Costa & T.A. Widiger (Eds.), *Personality disorders and the five factor model of personality* (2nd ed., pp.431-456). Washington, DC: American Psychological Association.
- Widiger, T. A., & Frances, A. J. (1985). The DSM-III personality disorders. Perspectives from psychology.

  \*Archives of General Psychiatry, 42, 615-623.
- Widiger, T. A., & Lowe, J. (2008). A dimensional model of personality disorder: proposal for DSM-V. *Psychiatric Clinics of North America*, *31*, 363-378.
- Widiger, T. A., & Mullins-Sweatt, S. N. (2009). Five-factor model of personality disorder: a proposal for DSM-V. *Annual Review of Clinical Psychology*, *5*, 115-138.
- Widiger, T. A., & Presnall, J. R.. (in press). Pathological altruism and personality disorder. In B. Oakley (Ed.).

  Pathological altruism. NY: Springer.
- Widiger, T. A., & Spitzer, R. L. (1991). Sex bias in the diagnosis of personality disorders. *Clinical Psychology Review*, 11, 1-22.
- Widiger, T. A., & Trull, T. J. (2007). Plate tectonics in the classification of personality disorder: shifting to a dimensional model. *American Psychologist*, 62, 71-83.
- Widiger, T. A., Trull, T. J., Clarkin, J. F., Sanderson, C., & Costa, P. T. (2002). A description of the DSM-IV personality disorders with the five-factor model of personality. In P.T. Costa & T.A. Widiger (Eds.), Personality disorders and the five factor model of personality (2nd ed., pp. 89-99). Washington, DC: American Psychological Association.
- Wiggins, J. S., & Pincus, A. L. (1989). Conceptions of personality disorders and dimensions of personality.

  \*Psychological Assessment, 1, 305-316.
- Yamagata, S., Suzuki, A., Ando, J., One, Y., Kijima, N., Yoshimura, K., Ostendorf, F., Angleitner, A., Riemann, R., Spinath, F. M., Livesley, W. J., & Jang, K. L. (2006). Is the genetic structure of human

- personality universal? A cross-cultural twin study from North America, Europe, and Asia. *Journal of Personality and Social Psychology*, *90*, 987-998.
- Zapolski, T., Guller, L., & Smith, G. T. (this issue). Construct validation theory applied to the study of personality dysfunction. *Journal of Personality*.
- Zimmerman, G., Rossier, G., de Stadelhofen, F. M., & Gaillard, F. (2005). Alexithymia assessment and relations with dimensions of personality. *European Journal of Psychological Assessment*, 21, 23-33.

Figure 1: Five-Factor Form<sup>1</sup>

Please write rating in blank on left below •	Maladaptive high (5)	Normal high (4)	Neutral (3)	Normal low (2)	Maladaptive low (1)							
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, ashamed	Self-conscious, embarrassed		Self-assured, charming	Glib, shameless							
Impulsivity	Unable to resist impulses	Self-indulgent		Restrained	Overly restrained							
Vulnerability	Helpless, overwhelmed	Vulnerable		Resilient	Fearless, feels invincible							
EXTRAVERSION												
Warmth	Intense attachments	Affectionate, warm		Formal, reserved	Cold, distant							
Gregariousness	Attention-seeking	Sociable, outgoing, personable		Independent	Socially withdrawn, 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							
PENNESS												
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							
GREEABLENESS												
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, self-centered, exploitative							
Compliance	Yielding, subservient, meek	Cooperative, obedient, deferential		Critical, contrary	Combative, aggressive							
Modesty	Self-effacing, self-denigrating	Humble, modest, unassuming		Confident, self-assured	Boastful, vain, pretentious, arrogant							
Tender-Mindedness	Overly soft-hearted	Empathic, sympathetic, gentle		Strong, tough	Callous, merciless, ruthless							
ONSCIENTIOUSNESS												
Competence	Perfectionistic	Efficient, resourceful		Casual	Disinclined, lax							
Order	Preoccupied w/organization	Organized, methodical		Disorganized	Careless, sloppy, haphazard							
Dutifulness	Rigidly principled	Dependable, reliable, responsible		Easy-going, capricious	Irresponsible, undependable, immoral							
Achievement	Workaholic, acclaim-seeking	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							

<sup>&</sup>lt;sup>1</sup>Copyright, Widiger (2009)

Table 1. DSM-IV Personality Disorders from the Perspective of the Five Factor Model of General Personality Structure

The state of the s	PRN	SZD	SZT	ATS	BDL	HST	NCS	AVD	DPD	OCP
Neuroticism (vs emotional stability)										
Anxiousness			Н	L	Н			Н	Н	Н
Angry Hostility	Н			Н	Н		Н			
Depressiveness					Н			Н	Н	
Self-Consciousness			Н	L	Н		L/H	Н	Н	
Impulsivity				Н	Н			L		
Vulnerability				L	Н	Н	Н	Н	Н	
Extraversion (vs introversion)										
Warmth (vs coldness)	L	L	L			Н			Н	L
Gregariousness (vs withdrawal)	L	L	L			Н	Н	L		
Assertiveness (vs unassertiveness)		L		Н			Н	L	L	
Activity (vs passivity)		L		Н				L		
Excitement-Seeking		L		Н		Н	Н	L		L
Positive Emotionality (vs anhedonia)	L	L	L							
Openness (vs closedness)										
Fantasy			Н		Н	Н	Н			
Aesthetics										
Feelings (vs alexithymia)		L				Н				L
Actions	L	L	Н	Н				L		L
Ideas			Н							
Values	L									L
Agreeableness (vs antagonism)										
Trust (vs mistrust)	L		L	L	L	Н	L		Н	
Straightforwardness (vs deception)	L			L	L	L	L			
Altruism (vs exploitation)	L			L			L		Н	
Compliance (vs aggression)	L			L	L				Н	
Modesty (vs arrogance)				L		L	L	Н	Н	
Tender-Mindedness (vs tough-minded)	L			L			L			
Conscientiousness (vs disinhibition)										
Competence (vs laxness)									L	Н
Order (vs disordered)						L				Н
Dutifulness (vs irresponsibility)				L						Н
Achievement-Striving							Н			Н
Self-Discipline (vs negligence)				L					L	Н
Deliberation (vs rashness)				L	L	L				Н

Note. PRN = paranoid, SZD = schizoid, SZT = schizotypal, ATS = antisocial, BDL = borderline, HST = histrionic, NCS = narcissistic, AVD = avoidant,

DPD = dependent, and OCP = obsessive-compulsive. Based on research and findings from Lynam and Widiger (2001), Samuel and Widiger (2004), and Widiger et al. (2002)