ALTERNATIVE DIMENSIONAL MODELS OF PERSONALITY DISORDER: FINDING A COMMON GROUND

Thomas A. Widiger, PhD, and Erik Simonsen, MD

The recognition of the many limitations of the categorical model of personality disorder classification has led to the development of quite a number of alternative proposals for a dimensional classification. The purpose of this article is to suggest that future research work toward the integration of these alternative proposals within a common hierarchical structure. An illustration of a potential integration is provided using the constructs assessed within existing dimensional models. Suggestions for future research that will help lead toward a common, integrative dimensional model of personality disorder are provided.

The many limitations of the categorical model of personality disorder classification are well recognized (Clark, Livesley, & Morey, 1997; Cloninger, 2000; First et al., 2002; Livesley, 2003; Rounsaville et al., 2002; Oldham & Skodol, 2000; Trull & Durrett, in press; Tyrer, 2001; Widiger & Samuel, in press). One expected response is proposals for dimensional classifications. If the authors of a future edition of the diagnostic manual shift toward a dimensional model, they will have quite a few alternative proposals to consider. The purpose of this presentation is twofold. We will first simply describe alternative proposals. More importantly, we suggest that future research work toward an integration of these alternative models within a common hierarchical structure.

EIGHTEEN PROPOSALS

Table 1 provides the citations for 18 proposals, along with (in most instances) an instrument commonly used for their assessment. Space limitations prohibit a thorough summary of each of them. They involve four basic strategies.

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DIMENSIONAL PROFILE OF EXISTING (OR MODIFIED) DIAGNOSTIC CONSTRUCTS

One approach is to simply provide a dimensional profile of the existing (or somewhat revised) diagnostic categories (Widiger & Sanderson, 1995). Three such proposals have been developed by Oldham and Skodol (2000), Tyrer and Johnson (1996), and Westen and Shedler (2000). An advantage of this approach is that it would retain the existing diagnostic constructs (e.g., antisocial), thereby easing the transition to a dimensional classification. A limitation of this approach is that there might be more fundamental dimensions of maladaptive personality functioning that cut across the existing personality disorders, contributing to their diagnostic co-occurrence.

DIMENSIONAL REORGANIZATION OF PERSONALITY DISORDER SYMPTOMS

A second approach is to reorganize the existing (and perhaps expanded) diagnostic criterion sets into more clinically useful and empirically valid dimensions of maladaptive personality functioning. Four such proposals have
been developed by Clark (Clark, Simms, Wu, & Casillas, in press), Harkness and McNulty (1994), Livesley (2003) and Shedler and Westen (2004b). The three clusters included within the American Psychiatric Association’s (APA) Diagnostic and Statistical Manual of Mental Disorders (DSM–IV; APA, 2000) could be said to represent a fifth version of this proposal, although the DSM–IV clusters do not in fact reorganize the criterion sets into a more coherent structure.

INTEGRATE AXES I AND II USING COMMON CLINICAL SPECTRA OF DYSFUNCTION

Clark et al. (in press) include within their factor analyses of personality disorder symptoms trait–like manifestations of anxiety and mood disorders because the diagnostic co–occurrence of personality with disorders on Axis I of the DSM–IV (APA, 2000) could be due to the presence of common, underlying dimensions of maladaptive personality functioning. A third approach to a dimensional model of personality disorder is to identify spectra of dysfunction that cut across the existing personality, mood, anxiety, substance use, and other diagnostic classes. Two such proposals have been developed by Siever and Davis (1991) and Krueger (2002).

INTEGRATE AXIS II WITH DIMENSIONAL MODELS OF GENERAL PERSONALITY STRUCTURE

Personality disorders may not only be on a continuum with Axis I disorders, they may also be on a continuum with general personality functioning, contributing to the absence of a clear boundary between normal and abnormal personality functioning and to the presence of a considerable amount of personality disorder symptomatology within the general population (Livesley, 2003; Widiger & Sanderson, 1995). A fourth approach is to integrate the classification of personality disorders with dimensional models of general personality structure. There are quite a few dimensional models of personality (John & Srivastava, 1999; Wiggins, 2003). Eight that have been related explicitly to the DSM–IV personality disorders are those of Cloninger (2000), Costa and McCrae (1990), Eysenck (1987), Miles and Hempel (2004), the interpersonal circumplex (Benjamin, 1996; Wiggins, 2003), Millon et al. (1996), Millon, Millon and Davis (1994), Tellegen (Watson, Wiese, Vaidya, & Tellegen, 1999), Tyrer (2000), and Zuckerman (2002).

TOWARD AN INTEGRATION OF ALTERNATIVE MODELS

It is possible that the authors of a future edition of the diagnostic manual would simply choose one of the 18 proposals. These proposals do vary in their empirical support as a dimensional model of personality disorder (e.g., O’Connor & Dyce, 1998), and one of them is likely to have more validity and clinical utility than any one of the other 17. The additional articles within the current and a future special section of the Journal of Personality Disorders
address (in part) research concerning behavioral genetics, neurobiological mechanisms, childhood antecedents, cross-cultural application, continuity with Axis I, coverage, and clinical utility.

However, it may also be true that some common ground can be found among them. It does appear to be the case, at least to us, that none of the models lacks any limitations that could not at times be well compensated through an integration with another model. Each model will have some flaws and deficits, and each model will likely have at least some useful features. The optimal decision for the authors of a future edition of the diagnostic manual might not be a zero-sum game, where one model is victorious and all other models are abandoned. The ideal solution might be to develop a common, integrative representation that includes the important contributions and potential advantages of each of the models.

COMMON HIGHER–ORDER DOMAINS

Fortunately, most of the alternative models do appear to be readily integrated within a common hierarchical structure (Bouchard & Loehlin, 2001; John & Srivastava, 1999; Krueger & Tackett, 2003; Larstone, Jang, Livesley, Vernon, & Wolf, 2002; Livesley, 2003; Markon, Krueger, & Watson, 2005; Trull & Durrett, in press; Zuckerman, 2002; Widiger & Mulkins–Sweatt, in press). This should not be surprising, as most of them are attempting to do largely the same thing (i.e., identify the fundamental dimensions of maladaptive personality functioning that underlie and cut across the existing diagnostic categories). We suggest more specifically that all but a few of the personality traits and behaviors contained within the 18 proposed models could be organized within a more fully developed, hierarchical structure. At the highest level could be the two clinical spectra of internalization and externalization identified by Krueger (2002) and Achenbach (1966). Immediately beneath the two dimensions of internalization and externalization would be three to five broad domains of personality functioning. Immediately beneath these broad domains would be personality trait scales, and at the lowest level would be the more behaviorally specific diagnostic criteria.

Table 2 indicates how the broad domains of most of the models might be aligned with one another. Each model is identified with the acronym provided in Table 1. We will discuss in more detail below the fit at this broad level of the DAPP–BQ, EPQ, IPC, MCMI–III, MPQ, NEO-PI–R, PAS, PSY–5, SNAP, TCI, ZKPQ, and the Siever and Davis (1991) clinical spectra models. However, we want to acknowledge that a couple of the models are not as readily fit within this common structure, at least based on the existing research. For example, the self–other, pleasure–pain, and active–passive polarity model of Millon et al. (1996) is not included in Table 2 because its alignment with the other models is not readily apparent and there has been only one study that has empirically related the polarities to any one of the other models included in Table 2 (i.e., Millon, 1994, reports correlations of the six MIPS scales with the NEO-PI–R). On the other hand, factor analyses
of the personality disorder scales of various editions of the MCMI–III have produced solutions that do converge well with the four- (or five-) factor structure (e.g., Choca, Retzlaff, Strack, Mouton, & Van Denburg, 1996; Dyce, O’Connor, Parkins, & Janzen, 1997; O’Connor & Dyce, 1998; Retzlaff & Gibertini, 1987; Simonsen, in press). In addition, the SWAP–200 is also not included in Table 2 because current research suggests that it does not have a congruent higher-order factor structure (Shedler & Westen, 2004a).

An important focus of future research will be to determine whether the 3 (or 6) polarities of the MIPS and the 12 scales of the SWAP–200 can be integrated with the higher-order structure of the DAPP–BQ, SNAP, MPQ, PSY–5, IPC, NEO-PI–R, EPQ, ZKPQ, and PAS, or whether the MIPS and SWAP–200 concern instead aspects of maladaptive personality functioning that are not commensurate with these other dimensional models. We do expect that a common structure is likely to be found, as the intention of these models is common: identify the fundamental dimensions of maladaptive personality functioning that underlie and cut across the existing diagnostic categories. We will also present below how the subscales of the SWAP–200 might in fact correspond with the subscales of the DAPP–BQ, EPP, MPQ, NEO-PI–R, PAS, SNAP, and TCI.

Table 2 also does not include the proposals to provide a dimensional profile of the existing (or somewhat modified) diagnostic categories, as the mod-

### Table 2. Alignment of Alternative Dimensional Models: Broad Domains

<table>
<thead>
<tr>
<th>First</th>
<th>Second</th>
<th>Third</th>
<th>Fourth</th>
<th>Fifth</th>
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<tbody>
<tr>
<td>DAPP–BQ</td>
<td>–Inhibition</td>
<td>Dissocial</td>
<td>Compulsivity</td>
<td>Emotional Dysregulation</td>
</tr>
<tr>
<td>NEO PI–R</td>
<td>Extraversion</td>
<td>Antagonism</td>
<td>Conscientiousness</td>
<td>Neuroticism Openness</td>
</tr>
<tr>
<td>SNAP &amp; MPQ</td>
<td>Positive Affectivity</td>
<td>(Negative Affectivity)</td>
<td>Constraint Negative Affectivity</td>
<td>Psychoticism</td>
</tr>
<tr>
<td>PSY–5</td>
<td>Positive Emotionality</td>
<td>Aggressiveness</td>
<td>Constraint Negative Emotionality</td>
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<td>IPC</td>
<td>Agency</td>
<td>Communication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MCMI–III</td>
<td>–Withdrawn</td>
<td>Aggressiveness</td>
<td>Constraint Neuroticism</td>
<td></td>
</tr>
<tr>
<td>EPQ &amp; EPP</td>
<td>Extraversion</td>
<td>Psychoticism</td>
<td>Impulsive Neuroticism</td>
<td></td>
</tr>
<tr>
<td>ZKPQ</td>
<td>Sociability</td>
<td>Aggression–Hostility</td>
<td>–Impulsive</td>
<td></td>
</tr>
<tr>
<td>PAS</td>
<td>–Withdrawn</td>
<td>Antisocial</td>
<td>Inhibited</td>
<td></td>
</tr>
<tr>
<td>Siever &amp; Davis</td>
<td>(–Inhibition)</td>
<td>Aggression–Impulsive</td>
<td>Affective Instability</td>
<td>Cognitive Perceptual</td>
</tr>
<tr>
<td>TCI</td>
<td>–Cooperativeness</td>
<td>Persistence</td>
<td>Harm Avoidance</td>
<td>Self–Transcendence</td>
</tr>
</tbody>
</table>

| Reward Dependence | Self–Directedness | Self–Transcendence |
| Novelty Seeking   |                   |

**Notes.** Selected scales are off-center because they lie in between the domains defined by the adjoining columns. Selected scales are italicized because they describe domains that are somewhat narrower in scope. Selected scales are noted parenthetically because they are more strongly related to another domain.
els provided in Table 2 concern dimensions of maladaptive (and at times also adaptive) personality functioning that, for the most part, cut across the existing diagnostic categories. Some personality disorders do appear to be confined largely to one broad domain (e.g., schizoid within the introversion domain, and obsessive–compulsive within the compulsivity domain), but most of them are more aptly described in terms of more than one domain (e.g., antisocial personality disorder by antagonism and disinhibition, avoidant by neuroticism and introversion, and dependent by neuroticism and agreeableness). The representation of the DSM–IV personality disorders will become more evident when the lower–order facets of each domain are articulated.

**Extraversion versus Introversion?** It is evident from Table 2 that most, if not all, of the models include a domain that concerns extraversion, also described as sociability, activity, positive emotionality, and (when keyed in the opposite direction) inhibition, introversion, or withdrawal. This domain contrasts being gregarious, talkative, assertive, and active with being withdrawn, isolated, introverted, and anhedonic. The terms “extraversion” and “positive emotionality” might appear to suggest different domains of personality functioning. However, many studies have confirmed that these are in fact the same domains (Bouchard & Loehlin, 2001; Harkness, McNulty, & Ben–Porath, 1995; John & Srivastava, 1999; Watson, Clark, & Harkness, 1994). The title “positive affectivity” is preferred by some because it is believed that positive affectivity might be providing the motivating force for extraversion, reflecting individual differences in a behavioral activation (or reward sensitivity) system (Depue & Collins, 1999; Pickering & Gray, 1999; Watson & Clark, 1997). The interpersonal term of “extraversion” is preferred by others in part because it is more simply descriptive of much of the behaviors that are included within the domain and it facilitates the recognition of the association with the interpersonal circumplex domains of affiliation (communion) and power (agency) (Wiggins, 2003). An important decision for the authors of the future edition of the diagnostic manual will be to select the optimal term(s) to characterize this (or any other) domain.

The ZKPQ domains of sociability and activity and the Siever and Davis domain of inhibition are italicized in Table 2 because they are relatively more narrow in their scope and coverage. In addition, neither agency nor communion from the IPC are aligned directly with this domain because they are 45–degree rotated versions of extraversion and agreeableness (Wiggins, 2003). It is possible that the location of the axes provided by the IPC is preferable to those used (for example) by the MPQ, EPQ, and NEO–PI–R (McCrae & Costa, 1989; Wiggins & Pincus, 1989), but we would suggest that the more commonly selected location is through the domain of extraversion rather than dominance or affiliation. Of course, none of the models are in fact aligned entirely perfectly. For example, there are meaningful differences between the extraversion domain of Eysenck (1987), the extraversion domain of Costa and McCrae (1992), and the positive affectivity domain of Clark and Watson (1999). Nevertheless, it is also apparent that the bulk of
their meaningful variance is shared (Clark & Watson, 1999; Costa & McCrae, 1992).

Antagonism versus Compliance? Most of the dimensional models also include traits referring to aggressive, dissocial, or antagonistic interpersonal relatedness at this higher-order level. This domain contrasts being suspicious, rejecting, exploitative, aggressive, antagonistic, callous, deceptive, and manipulative with being trusting, compliant, agreeable, modest, dependent, diffident, and empathic. This domain is represented more narrowly by the PSY–5 and the ZKPQ as these versions of this domain are confined largely to interpersonal aggressiveness, whereas the other models include such additional components as mistrust, exploitation, suspiciousness, deception, and arrogance. Psychoticism from Eysenck’s dimensional model is not aligned perfectly with this domain because he included within “psychoticism” both interpersonal antagonism and impulsive disinhibition (Bouchard & Loehlin, 2001; Clark & Watson, 1999; Digman, 1990; Eysenck, 1987; John & Srivastava, 1999), comparable to the conceptualization of this domain by Siever and Davis (1991).

A potential point of confusion in Table 2 that should also be noted is that “psychoticism” scales are included in two different locations. This reflects the fact that this single term has been used to refer to quite different constructs. The psychoticism of Eysenck’s (1987) EPQ is not the same as the psychoticism of Harkness and McNulty’s (1994) PSY–5. As we just indicated, the psychoticism of Eysenck (1987) refers to impulsive and aggressive behaviors, whereas the psychoticism of the PSY–5 refers to cognitive and perceptual aberrations.

The three dimensional models of the MPQ and the SNAP do not include this domain of personality functioning at this higher-order level. The SNAP does include scales for mistrust, manipulativeness, and aggression, but these are placed within the domain of negative affectivity (Clark et al., in press), as does the MPQ include an aggression scale within the domain of negative emotionality (Tellegen & Waller, 1987). Being mistrustful, aggressive, and manipulative does often (if not invariably) include a negative affect of angry hostility. However, joint factor analyses of the DAPP–BQ and SNAP subscales have yielded consistently a four-factor solution (Clark & Livesley, 2002; Clark, Livesley, Schroeder, & Irish, 1996) that corresponds to the first four domains of Table 2. As indicated by Watson et al. (1994), “extensive data indicate that . . . the Big Three and Big Five models define a common ‘Big Four’ space” (p. 24), consisting of negative affectivity (neuroticism), positive affectivity (extraversion), antagonism, and constraint.

Constraint versus Impulsivity? All but a couple of the models also include a domain concerned with the control and regulation of behavior, referred to as constraint, compulsivity, or conscientiousness, or, when keyed in the opposite direction, impulsivity or disinhibition. It contrasts being disciplined, compulsive, dutiful, conscientious, deliberate, workaholic, and achievement-oriented with being irresponsible, lax, impulsive, negligent, and hedonistic (constraint, as assessed by the SNAP and MPQ also contains aspects
of antagonism). Dimensional models that do not include this domain of personality functioning are the IPC and the PAS. Tyrer (2000) places the symptoms of the obsessive–compulsive (anankastic) personality disorder within his PAS inhibited domain, which is otherwise defined largely by traits of anxiousness and dysphoria (i.e., a somewhat different meaning for the term, inhibition, than is used, for instance, for the DAPP–BQ). The IPC does not include constraint versus disinhibition, as it is a two–dimensional model confined to domains of interpersonal relatedness.

An additional example of the same term having different meanings is the harm avoidance of the TCI and the MPQ. Harm avoidance in the TCI refers to an anxious behavioral inhibition, whereas harm avoidance in the MPQ is a quite different construct, referring to a low constraint (or behavioral disinhibition that is potentially fearless). The differences between TCI harm avoidance and MPQ harm avoidance are so striking that they are in fact placed within different broad domains.

Emotional Dysregulation versus Emotional Stability? Finally, it is also evident from Table 2 that all but one of the models include a broad domain of emotional dysregulation, otherwise described as negative affectivity or neuroticism. It contrasts feeling anxious, depressed, angry, despondent, labile, helpless, self–conscious, and vulnerable with feeling emotionally stable, self–assured, invulnerable, calm, glib, shameless, and invincible. The only model not to include this domain of personality functioning is again the IPC. This fourth domain is also somewhat more narrowly defined by Siever and Davis (1991) as they separate anxiousness from affective instability.

In sum, the predominant models of normal and abnormal personality functioning appear to converge onto four broad domains of personality functioning (Bouchard & Loehlin, 2001; John & Srivastava, 1999; Krueger & Tackett, 2003; Larstone et al., 2002; Livesley, 2003; Markon et al., 2005; Trull & Durrett, in press; Watson et al., 1994; Widiger, 1998; Zuckerman, 2002) that can be described as extraversion versus introversion, antagonism versus compliance, constraint versus impulsivity, and emotional dysregulation versus emotional stability. The authors of these various models would not all agree on the best names for each domain, due in part to the fact that no single name is likely to optimally describe an entire domain; some models place more emphasis on the normal variants (e.g., NEO-PI–R & TCI) whereas other models place more emphasis on the abnormal variants (e.g., DAPP–BQ & SNAP); and, finally, the models vary in how broadly or narrowly they define each domain. We have provided tentative names for each domain that emphasize (for the most part) the maladaptive variants, as these would be of most relevance and interest to clinicians. In any case, the convergence among the alternative models with respect to the existence of the four domains is quite evident. Empirical support for the convergence of these models has been provided in quite a number of studies (e.g., Austin & Deary, 2000; Clark et al., 1996; Deary, Peter, Austin, & Gibson, 1998; Dyce et al., 1997; Livesley, Jang, & Vernon, 1998; Markon et al., 2005; Mulder & Joyce, 1997; O’Connor & Dyce, 1998), including even some of the earliest.
original efforts to develop dimensional models of personality disorder by Presly and Walton (1973) and Tyrer and Alexander (1979).

**Unconventionality versus Closedness to Experience?** Only three of the models include a fifth broad domain, characterized within the NEO-PI–R as openness to experience, described as unconventionality by Tellegen and Waller (1987), identified within the PSY–5 as psychoticism (i.e., illusions, misperceptions, perceptual aberrations, & magical ideation), and identified within the clinical spectra of Siever and Davis (1991) as cognitive–perceptual aberrations. There are also subscales within the SNAP (e.g., eccentric perceptions), the DAPP–BQ (perceptual cognitive distortion), and the MPQ (absorption) that relate empirically to this domain (Bouchard & Loehlin, 2001; Clark & Livesley, 2002). A domain of unconventionality (or openness) is obtained in joint factor analytic studies that provide sufficient representation (e.g., Clark & Livesley, 2002). However, it appears to be the case that when this domain is narrowly defined as simply cognitive–perceptual aberrations, scales to assess it either load on other factors (typically negative affectivity) or they define a factor that is so small that it might not appear to be worth identifying (Austin & Deary, 2000; Clark et al., 1996; Larstone et al., 2002). Openness to experience is itself the fifth and smallest domain of the Five-Factor Model (Ashton & Lee, 2001). It is also possible that cognitive–perceptual aberrations do not belong within a dimensional model of normal and abnormal personality functioning, consistent with the World Health Organization’s (WHO, 1992) inclusion of DSM–IV (APA, 2000)

<table>
<thead>
<tr>
<th>TABLE 3. Lower–Order Traits within a Domain of Constraint versus Impulsivity</th>
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<tr>
<td><strong>Abnormally High Traits</strong></td>
</tr>
<tr>
<td>DAPP–BQ: compulsivity</td>
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<tr>
<td>SNAP: workaholism</td>
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<tr>
<td>TCI: perfectionism, work-hardened</td>
</tr>
<tr>
<td>SWAP–200: obsessionality</td>
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<tr>
<td><strong>Normal Traits</strong></td>
</tr>
<tr>
<td>NEO PI-R: dutifulness, order, achievement–striving, self-discipline, deliberation, competence</td>
</tr>
<tr>
<td>PAS: conscientiousness</td>
</tr>
<tr>
<td>MPQ: achievement, control, traditionalism, harm avoidance</td>
</tr>
<tr>
<td>SNAP: propriety</td>
</tr>
<tr>
<td>TCI: resourcefulness, eagerness of effort, responsibility, ambitiousness, purposefulness</td>
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<tr>
<td><strong>Abnormally Low Traits</strong></td>
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<tr>
<td>SNAP: impulsivity</td>
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<tr>
<td>TCI: impulsiveness, disorderliness</td>
</tr>
<tr>
<td>PAS: irresponsibility, childishness, impulsiveness</td>
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<tr>
<td>EPP: impulsivity, risk taking, irresponsibility</td>
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schizotypal personality disorder as a variant of schizophrenia. We will discuss this issue further below.

LOWER–ORDER TRAITS AND SYMPTOMS

We now turn to the constructs and scales that might be included within each one of these four (or five) broad domains. This is facilitated by the fact that some of the dimensional models include lower–order scales that have been related empirically to one another. Consideration of the lower–order scales also provides a better understanding of the potential integration of the SWAP–200 within the hierarchical structure.

**Constraint versus Impulsivity.** Table 3 provides trait scales within a domain of constraint versus disinhibition (or impulsivity). Normal and abnormal variants of constraint are readily identified, with a number of scales from the TCI, PAS, MPQ, and NEO-PI–R that refer to normal, adaptive levels of constraint (or conscientiousness), such as dutifulness, conscientiousness, responsibility, ambitiousness, achievement, resourcefulness, deliberation, control, and self-discipline, and maladaptive variants of these traits emphasized by the DAPP–BQ, SWAP–200, EPP, and SNAP (i.e., compulsivity, obsessionality, workaholism, propriety). We placed the TCI scales of perfectionism and work-hardened, and the EPP scales of impulsivity, risk taking, and irresponsibility within the abnormal range, but these could just as well have been placed within the normal range.

We are not suggesting, of course, that a future edition of the diagnostic manual provide all of the 30 scales included in Table 3. There is clearly substantial redundancy. Only a small subset would in fact be necessary, and an important issue for future research is which subset would represent the optimal choice. Considered in this selection might be extent of overlap, adequate coverage of the domain, representation of different dimensional models, clinical relevance, familiarity, and ease of usage.

An additional question for future research is the potential bipolarity of the hierarchical structure. The existing hierarchical structure of the DSM–IV (APA, 2000) does not include any such bipolarities. This does represent a level of complexity that is not evident anywhere within the DSM–IV (e.g., there is no maladaptive variant of high intelligence or low compulsivity). However, we would suggest that this bipolarity is evident in other areas of medicine. For example, there are maladaptive consequences of both high and low blood pressure, with normal blood pressure occupying an intermediate ground. In addition, a bipolar structure appears to be inherent to any hierarchical organization of the adaptive and maladaptive personality scales included within the existing instruments. For example, in the higher-order structure of the SNAP, the SNAP impulsivity scale loads negatively on the constraint domain, whereas the SNAP propriety and workaholism scales load positively (Clark et al., in press). A comparable finding occurs for other domains. SNAP exhibitionism loads positively on the domain of positive affectivity whereas detachment loads negatively...
Clark et al., in press), just as the DAPP–BQ stimulus seeking scale loads positively on this domain and the DAPP–BQ social avoidance scale loads negatively (Livesley et al., 1998). The same finding also occurs when higher–order structures are developed with the DSM–IV personality disorder criterion sets. For example, in one of the initial efforts to integrate empirically the dimensional and categorical models of personality and personality disorder, Wiggins and Pincus (1989) indicated how the histrionic and narcissistic personality disorders loaded positively on an extraversion dimension, whereas schizoid loaded negatively. Dependent personality disorder loaded positively on an agreeableness factor, whereas the antisocial, paranoid, and narcissistic disorders loaded negatively. Comparable findings have consistently occurred in subsequent higher–order organizations of the DSM–IV personality disorder constructs (Coker, Samuel, & Widiger, 2002; O’Connor & Dyce, 1998).

A future diagnostic manual can avoid the conceptual complexity of this bipolarity, however, by simply excluding it from the visual presentation of the scales, consistent with how the personality disorders are currently presented. Table 4 provides a much simplified version of Table 3. Only a small subset of the constructs is provided and the bipolarity is removed from the visual presentation. Note, however, that the scales included in Table 4 do not represent our suggestion of which scales from Table 3 should be included or excluded. Its intention is only to indicate visually that the presentation of the scales need not be as complex or burdensome as might be implied by Table 3.

**Extraversion versus Introversion.** Table 5 provides possible scales for a domain of extraversion versus introversion. At one pole could be maladaptive scales from the DAPP–BQ (stimulus seeking), SNAP (exhibitionism), TCI (extravagence), and SWAP–200 (histrionic sexualization); at the opposite pole could be the maladaptive scales from the DAPP–BQ (intimacy problems, social avoidance), SNAP (detachment), PAS (aloofness), and SWAP–200 (schizoid orientation). In between could be the normal variants of these constructs, as represented by the NEO-PI–R scales concerning gre-
It is also important to note that much of the existing personality disorder diagnostic criteria would be easily included within this hierarchical structure. Each of the abnormal trait scales would include items for their assessment, and in most instances these items would resemble closely the existing personality disorder diagnostic criteria. In fact, the existing personality disorder diagnostic criteria are already included within the DAPP–BQ, SNAP, and SWAP–200 scales. In sum, clinicians familiar with the existing diagnostic criterion sets would readily identify much (if not all) of the existing personality disorder symptoms within the dimensional hierarchical structure. The dimensional model will have simply reorganized the criterion sets into a more coherent and empirically supported structure. In addition, the diagnostic manual could go further by providing guidelines for a profile matching with which clinicians could recover the DSM–IV diagnostic constructs (e.g., antisocial or borderline). For example, what was identified in the DSM–IV as a schizoid personality disorder could be diagnosed by elevations on the detachment and aloofness scales. Research has indicated that these profile matching algorithms reproduce well the findings that are currently
Antagonism versus Compliance

Table 6 provides a description of how the respective lower-order personality trait scales from the PAS, DAPP–BQ, SNAP, TCI, NEO-PI–R, MPQ, and SWAP–200 might be aligned with one another within a domain of antagonism versus compliance. Scales from the NEO-PI–R and TCI refer largely to normal variants (i.e., being trusting, compliant, straightforward, altruistic, modest, helpful, compassionate, sentimental, and empathic), whereas the scales from the DAPP–BQ, SWAP–200, PAS, and SNAP refer largely to abnormal, maladaptive variants of these same traits (i.e., being dependent, diffident, gullible, sacrificial, meek, docile, submissive, or self-denigrating). Table 6 is useful in illustrating the close relationship of the normal and abnormal variants of these traits, as some scales are difficult to even classify (e.g., MPQ scale for aggression), consistent with the considerable amount of research indicating a continuum between normal and abnormal personality functioning (Cloninger, 2000; Livesley, 2001; Reynolds & Clark, 2001; Saulsman & Page, 2004; Trull & Durrett, in press; Tyrer, 2001; Widiger & Costa, 2002).

A decision for the authors of a future edition of the diagnostic manual will be whether to include normal variants of each of the domains of personality functioning. There are arguments against doing so (e.g., the argument that the diagnostic manual is not for the purpose of describing normal psychological functioning). However, there are also compelling arguments for in-

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<th>Abnormal High Traits</th>
<th>Abnormal Low Traits</th>
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<tbody>
<tr>
<td>DAPP–BQ: narcissism, suspiciousness, interpersonal disesteem, conduct problems, passive oppositionality, rejection</td>
<td>DAPP–BQ: diffidence, insecure attachment</td>
</tr>
<tr>
<td>SNAP: mistrust, manipulativeness, aggression, entitlement</td>
<td>SNAP: (dependency)</td>
</tr>
<tr>
<td>MPQ: aggression, (alienation)</td>
<td>PAS: dependence, submissiveness</td>
</tr>
<tr>
<td>PAS: suspiciousness, aggression, callousness</td>
<td>TCI: dependence</td>
</tr>
<tr>
<td>SWAP–200: narcissism, psychopathy</td>
<td>TCI: (social closeness)</td>
</tr>
</tbody>
</table>

Note. Some scales are noted parenthetically because they include aspects of personality function from another domain.
cluding normal personality scales. Their inclusion will allow for the provision of a more comprehensive description of a patient’s entire personality functioning, their inclusion will facilitate an integration of the diagnostic manual with basic science research on general personality functioning, and their inclusion can be helpful clinically by identifying adaptive personality traits that contribute to treatment responsivity.

As we discuss further below, future research might indicate that some of our scale placements are inaccurate or at least not optimal. For example, a number of studies have placed dependency scales within a domain of neuroticism or emotional instability (e.g., Clark et al., 1996; De Clercq & De Fruyt, 2003; Clark & Livesley, 2002; Trull, 1992). However, quite a few studies have placed dependency scales within a domain of agreeableness (e.g., Blais, 1997; Coker et al., 2002; Costa & McCrae, 1990; Dyce & O’Connor, 1998; Haigler & Widiger, 2001; Hyer et al., 1994; Lynam & Widiger, 2001; Pincus & Gurtman, 1995; Sprock, 2002; Wiggins & Pincus, 1989; Zuroff, 1994). The IPC dimensional models consistently place dependency scales within an agreeableness (or compliance) domain (Pincus & Gurtman, 1995; Widiger & Hagemoser, 1997), as the IPC dimensional models do not include a neuroticism (or negative affectivity) domain. The inconsistency in placement is perhaps due largely to the complexity of the dependent personality disorder construct (i.e., involving traits of both neuroticism and agreeableness).

Emotional Dysregulation versus Emotional Stability. Finally, Table 7 provides scales for a domain of emotional dysregulation versus emotional stability. The lack of a clear boundary between the normal and abnormal variants is even more apparent within this domain. The NEO-PI–R includes a scale for anxiousness for persons within the general population who would not typically be diagnosed as having a personality disorder, whereas the anxiousness scale from the DAPP–BQ was derived from studies of maladaptive personality functioning. We placed the PAS anxiousness scale as a normal variant, but it should perhaps have been placed within the abnormal variant. One could readily include all of the normal personality NEO-PI–R scales of anxiousness, vulnerability, self-consciousness, angry hostility, and depressiveness within the maladaptive variants. In fact, we placed the MPQ scales of stress reaction and alienation within the abnormal range even though they were constructed to assess general personality functioning.

Table 7 places the NEO-PI–R scale of impulsivity within this emotional dysregulation domain, consistent with its placement within the NEO-PI–R domain of neuroticism. However, this is perhaps another instance where the same terms are being used to refer to somewhat different constructs. NEO-PI–R impulsivity is not equivalent to the impulsivity scales of the SNAP, TCI, MPQ, or PAS (Costa & McCrae, 1992). Impulsivity is itself a construct that has quite a few different meanings and interpretations (Depue & Collins, 1999; Whiteside & Lynam, 2001) and it will be important for the authors of a unified, integrated dimensional model of personality disorder to
clarify and articulate the particular meaning of the constructs that are included.

We also want to note that we did not include all of the scales from the PAS, DAPP–BQ, SNAP, TCI, NEO-PI–R, MPQ, and SWAP–200 within the four domains. For example, missing from the respective four tables were SNAP eccentric perceptions, DAPP–BQ cognitive distortion, PAS eccentricity, PAS rigidity, SWAP–200 thought disorder, TCI transpersonal identification, TCI spiritual acceptance, MPQ absorption, SWAP–200 dissociation, and all of the openness to experience scales from the NEO-PI–R. The exclusion of these scales is perhaps due to our failure to recognize that they could or should be included in one of the four domains (e.g., emotional dysregulation). It may also reflect the belief that these constructs should not be included within a personality disorder classification, belonging instead within the classification of schizophrenic or other psychotic disorders (as schizotypal disorder is currently diagnosed by the WHO). However, it may also be a result of the decision to include just four domains of personality functioning, excluding from the model a fifth domain of unconventionality or openness to experience, where many of these additional scales could be included (Costa & McCrae, 1992; Tellegen & Waller, 1987).

CONCLUSIONS AND RECOMMENDATIONS

In sum, we suggest that an important goal of future research will be the identification of a common ground among the alternative dimensional mod-

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**TABLE 7. Lower–Order Traits, Facets, and Diagnostic Criteria within the Domain of Emotional Dysregulation versus Emotional Stability**

<table>
<thead>
<tr>
<th>Abnormal High Traits</th>
<th>Abnormal Low Traits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAPP–BQ: affective lability, self-harm, anxiousness, identity problems, (insecure attachment), (intimacy problems), (social avoidance), (diffidence)</td>
<td>(restricted expression)</td>
</tr>
<tr>
<td>SNAP: self-harm, dependency</td>
<td></td>
</tr>
<tr>
<td>PAS: lability, pessimism, worthlessness, (shyness), vulnerability, irritability, hypochondriasis, sensitivity</td>
<td></td>
</tr>
<tr>
<td>MPQ: alienation, stress reaction</td>
<td></td>
</tr>
<tr>
<td>TCI: anticipatory worry, fear of uncertainty, (shyness)</td>
<td></td>
</tr>
<tr>
<td>SWAP–200: emotional dysregulation, dysphoria, hostility</td>
<td></td>
</tr>
<tr>
<td>EPP: anxiety, inferiority, unhappiness</td>
<td></td>
</tr>
<tr>
<td>NEO PI–R: self-consciousness, anxiousness, depressiveness, vulnerability, angry hostility, impulsivity</td>
<td></td>
</tr>
<tr>
<td>PAS: introspection, anxiousness, (optimism)</td>
<td></td>
</tr>
<tr>
<td>MPQ: (well-being)</td>
<td></td>
</tr>
<tr>
<td>TCI: self-acceptance</td>
<td></td>
</tr>
</tbody>
</table>

Note. Some scales from are noted parenthetically because they include aspects of personality function from another domain.
els of personality disorder. We recognize that future research will continue to focus on the particular strengths, nuances, and advantages of alternative models. The respective validity and clinical utility of each alternative model would be informative to the authors of a future edition of the diagnostic manual in making decisions regarding which specific components of each model to include within an integrative structure. However, we would also encourage researchers to themselves consider the possibility of working toward a more unified, integrative model. Given that these models are all attempting to do largely the same thing, it would seem likely that they share common ground. It is possible that the authors of a future edition of a diagnostic manual will come to the decision that one particular model is preferable to all of the others. However, it is our opinion that it is unlikely that any one particular model will lack any redeeming or useful features or, conversely, that any one particular model will be without any meaningful faults or limitations. We would therefore suggest that research that leads to an integrative structure will be particularly informative to the authors of this future diagnostic manual.

It is also possible that a common, integrative structure will not resemble closely the illustrative model we provided. Our integrative model is guided by a considerable amount of supportive research (e.g., Austin & Deary, 2000; Clark et al., 1996; Clark, McEwen, Collard, & Hickok, 1993; Costa & McCrae, 1990; Deary et al., 1998; De Clercq & De Fruyt, 2003; De Fruyt, van De Wiele, & van Heeringen, 2000; Duijsens & Diekstra, 1996; Dyce et al., 1997; Livesley et al., 1998; Markon et al., 2005; Mulder & Joyce, 1997; O’Connor & Dyce, 1998; Reynolds & Clark, 2001; Schroeder, Wormworth, & Livesley, 1992; Trull, 1992; Trull, Useda, Costa, & McCrae, 1995; Zuckerman, 2002) but, admittedly, there are some studies that suggest that some of the existing dimensional models might not be well integrated within this structure (e.g., Shedler & Westen, 2004a) and the placement of some models (e.g., PAS) is based on only a limited amount of research. Our placements of some of the PAS, DAPP–BQ, SNAP, TCI, NEO–PI–R, MPQ, and SWAP–200 scales might also be disputed. Perhaps we have misunderstood the constructs assessed by these scales or the research that has been conducted to date. Some of the placements (e.g., those placed parenthetically) were difficult because the constructs appear to contain aspects from more than one domain. Future research could help to determine how these alternative dimensional models of personality disorder could be best integrated into a common, unified, hierarchical structure.

The authors of prior editions of the diagnostic manual faced a comparable issue when attempting to develop the optimal criterion sets for each personality disorder. For example, it was recognized by the authors of the DSM–III (APA, 1980) that the diagnostic manual should include a diagnosis of borderline personality disorder but there were quite a number of alternative criterion sets for this diagnosis (Frances, 1980). In the absence of sufficient research to indicate that one particular criterion set was without any limitations or faults, and the absence of sufficient research to indicate that none of the other alternative criterion sets lacked any redeeming benefits, the deci-
sion was made to attempt to find a reasonable integration that would facilitate a common recognition and acceptance of this new diagnostic construct (Spitzer, Endicott, & Gibbon, 1979).

The devil, of course, could be in the details. It is apparent that the illustrative model includes considerable redundancy (a direct effect of the alternative efforts to describe a common ground) and uncertain labeling. If the authors of a future diagnostic manual prefer to use an integrative, hierarchical structure, they will need to decide which scales and constructs will be optimal for inclusion, and how best to represent them. Considered in this selection could be the extent of overlap, adequate representation of different models, adequate coverage of the domain, clinical relevance, familiarity, and ease of usage. Last, but not least, is whether the diagnostic manual should include normal, adaptive traits. We again argue for the importance of their inclusion. The inclusion of normative, adaptive traits will facilitate the provision of a more comprehensive (and accurate) description of each patient’s general personality structure; it will facilitate an integration of the diagnostic manual with basic science research on general personality structure; and it will facilitate treatment decisions through the recognition of traits that contribute to an understanding of treatment responsivity. Even if the diagnostic manual does not explicitly include normal personality traits, it should be closely coordinated with them so that the APA diagnostic manual of personality disorders is itself well integrated and coordinated with basic science research on general personality structure.

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