

PART I

OVERVIEW

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CHAPTER 1

Mental Disorders as Discrete Clinical Conditions: Dimensional Versus Categorical Classification

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IN *DSM-IV*, THERE [was] “no assumption that each category of mental disorder is a completely discrete entity with absolute boundaries dividing it from other mental disorders or from no mental disorder” (American Psychiatric Association [APA], APA, 2000, p. xxxi). This carefully worded disclaimer, however, was somewhat hollow, as it was the case that “*DSM-IV* [was] a categorical classification that divides mental disorders into types based on criterion sets with defining features” (APA, 2000, p. xxxi). The categorical model of classification is consistent with a medical tradition in which it is believed (and often confirmed in other areas of medicine) that disorders have specific etiologies, pathologies, and treatments (Guze, 1978; Guze & Helzer, 1987; Zachar & Kendler, 2007).

Clinicians, following this lead, diagnosed and conceptualized the conditions presented in *DSM-IV-TR* as disorders that are qualitatively distinct from normal functioning and from one another. *DSM-IV-TR* provided diagnostic criterion sets to help guide clinicians toward a purportedly correct diagnosis and an additional supplementary section devoted to differential diagnosis that indicated “how to differentiate [the] disorder from other disorders that have similar presenting characteristics” (APA, 2000, p. 10). The intention of the manual was to help the clinician determine which particular mental disorder provides the best explanation for the symptoms and problems facing the patient. Clinicians devote initial time with a new patient to identify, through differential diagnosis, which specific disorder best explains a patient’s presenting complaints. The assumption is that the person is suffering from a single, distinct clinical condition, caused by a specific pathology for which there will be a specific treatment (Frances, First, & Pincus, 1995).

Authors of the diagnostic manual devote a considerable amount of time writing, revising, and researching diagnostic criteria to improve differential diagnosis. They buttress each disorder’s criterion set, trying to shore up discriminant validity and distinctiveness, following the rubric of Robins and Guze (1970) that the validity of a

diagnosis rests in large part on its “delimitation from other disorders” (p. 108). “These criteria should . . . permit exclusion of borderline cases and doubtful cases (an undiagnosed group) so that the index group may be as homogeneous as possible” (Robins & Guze, 1970, p. 108).

Scientists may devote their careers to attempting to identify the specific etiology, pathology, or treatment for a respective diagnostic category. Under the assumption that the diagnoses do in fact refer to qualitatively distinct conditions, it follows that there should be a specific etiology, pathology, and perhaps even a specific treatment for each respective disorder. The theories, hypotheses, findings, and disputes regarding the specific etiology, pathology, and/or treatment of a respective mental disorder largely inform the respective chapters of professional, graduate, and undergraduate texts on psychopathology, such as this current edition of *Adult Psychopathology and Diagnosis*.

However, the question of whether mental disorders are, in fact, discrete clinical conditions or arbitrary distinctions along continuous dimensions of functioning has been a long-standing issue (Kendell, 1975) and its significance is escalating with the growing recognition of the limitations of the categorical model (Goldberg, 2015; Hyman, 2010; Stephan et al., 2016; Widiger & Clark, 2000; Widiger & Samuel, 2005). The principal model for the validation of mental disorder diagnostic categories was provided by Robins and Guze (1970), who articulated five fundamental phases: clinical description, laboratory study, delimitation from other disorders, follow-up, and family studies. However, the research that has accumulated to date has not supported the validity of the delimitation of the disorders from one another. “Indeed, in the last 20 years, the categorical approach has been increasingly questioned as evidence has accumulated that the so-called categorical disorders like major depressive disorder and anxiety disorders, and schizophrenia and bipolar disorder seem to merge imperceptibly both into one another and into normality . . . with no demonstrable natural boundaries” (First, 2003, p. 661). As expressed by the vice chair of *DSM-5*, “the failure of *DSM-III* criteria to specifically define individuals with only one disorder served as an alert that the strict neo-Kraepelinian categorical approach to mental disorder diagnoses advocated by Robins and Guze (1970), Spitzer, Endicott, and Robins (1978), and others could have some serious problems” (Regier, 2008, p. xxi). As acknowledged by Kendell and Jablensky (2003), “it is likely that, sooner or later, our existing typology will be abandoned and replaced by a dimensional classification” (p. 8).

In 1999, a *DSM-5* Research Planning Conference was held under joint sponsorship of the APA and the National Institute of Mental Health (NIMH), the purpose of which was to set research priorities that would optimally inform future classifications. One impetus for this effort was the frustration with the existing nomenclature.

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

DSM-5 Research Planning Work Groups were formed to develop white papers that would set an effective research agenda for the next edition of the diagnostic manual. The Nomenclature Work Group, charged with addressing fundamental assumptions of

the diagnostic system, concluded that it will be “important that consideration be given to advantages and disadvantages of basing part or all of DSM-V on dimensions rather than categories” (Rounsaville et al., 2002, p. 12).

The white papers developed by the DSM-5 Research Planning Work Groups were followed by a series of international conferences whose purpose was to further enrich the empirical database in preparation for the eventual development of *DSM-5* (a description of this conference series can be found at www.dsm5.org). The first conference was devoted to shifting personality disorders to a dimensional model of classification (Widiger, Simonsen, Krueger, Livesley, & Verheul, 2005). The final conference was devoted to dimensional approaches across the diagnostic manual, including substance use disorders, major depressive disorder, psychoses, anxiety disorders, and developmental psychopathology, as well as the personality disorders (Helzer et al., 2008a).

Nevertheless, despite all this preparatory work toward a shift to a dimensional classification, *DSM-5* retained the categorical model for all its diagnoses. The apparent failure of the categorical model of classification was at least duly noted within the introduction to *DSM-5*. “The historical aspiration of achieving diagnostic homogeneity by progressively subtyping within disorder categories is no longer sensible; like most common human ills, mental disorders are heterogeneous at many levels, ranging from genetic risk factors to symptoms” (APA, 2013, p. 12). The authors of *DSM-5* further suggested that “dimensional approaches to diagnosis . . . will likely supplement or supersede current categorical approaches in the coming years” (APA, 2013, 13).

The purpose of this chapter is to review the *DSM-IV-TR* and *DSM-5* categorical diagnostic approach. The chapter begins with a discussion of the problematic boundaries among the *DSM-IV-TR* and *DSM-5* categorical diagnoses. We then focus in particular on depression, alcohol abuse and dependence, personality disorders, and intellectual disability. We conclude with a discussion of the shifts within *DSM-5* toward a dimensional classification.

DIAGNOSTIC BOUNDARIES

In an effort to force differential diagnosis, a majority of diagnoses in *DSM-III* (APA, 1980) contained exclusionary criteria specifying that a respective disorder could not be diagnosed if it occurred in the presence of another disorder. These exclusions by fiat did not prove to be effective (Boyd et al., 1984) and many were deleted in *DSM-III-R* (APA, 1987). As expressed at the time by Maser and Cloninger (1990), “it is clear that the classic Kraepelinian model in which all psychopathology is comprised of discrete and mutually exclusive diseases must be modified or rejected” (p. 12).

Many *DSM-5* diagnostic criterion sets, however, continue to include exclusionary criteria that attempt to force clinicians to make largely arbitrary choices among alternative diagnoses (APA, 2013), and it is also evident that there will likely continue to be a highly problematic rate of diagnostic co-occurrence (Krueger & Markon, 2006; Maser & Patterson, 2002; Widiger & Clark, 2000). The term *comorbidity* refers to the co-occurrence of distinct disorders, apparently interacting with one another, each presumably with its own independent etiology, pathology, and treatment implications (Feinstein, 1970). If one considers the entire diagnostic manual (which has not yet been done by any epidemiological study), it would likely be exceedingly rare for any patient to meet the criteria for just one disorder, and the comorbidity rises even further if one considers lifetime co-occurrence. Brown, Campbell, Lehman, Grisham, and Mancill (2001), for instance, reported that 95% of individuals in a clinical setting who meet criteria for lifetime major depression or dysthymia also meet criteria for a current or past anxiety

disorder. Comorbidity is the norm rather than the exception (Brown & Barlow, 2009; Friborg, Martinussen, Kaiser, Øvergård, & Rosenvinge, 2013; Friborg et al., 2014; Kessler, Chiu, Demler, & Walters, 2005; Kotov, Perlman, Gámez, & Watson, 2015). The excessive comorbidity across the APA diagnostic manual may be saying more about the invalidity of existing diagnostic distinctions than the presence of multiple coexisting conditions (Krueger, 2002; Widiger & Edmundson, 2011).

Diagnostic comorbidity has become so prevalent that some researchers have argued for an abandonment of the term *comorbidity* in favor of a term (e.g., *co-occurrence*) that does not imply the presence of distinct clinical entities (Lilienfeld, Waldman, & Israel, 1994). There are instances in which the presence of multiple diagnoses suggests the presence of distinct yet comorbid psychopathologies, but in most instances the presence of co-occurring diagnoses does appear to suggest a common, shared pathology and, therefore, a failing of the current diagnostic system (Krueger & Markon, 2006; Widiger & Clark, 2000). “Comorbidity may be trying to show us that many current treatments are not so much treatments for transient ‘state’ mental disorders of affect and anxiety as they are treatments for core processes, such as negative affectivity, that span normal and abnormal variation as well as undergird multiple mental disorders” (Krueger, 2002, p. 44).

Diagnostic criteria have traditionally been developed and subsequently modified in order to construct a disorder that is as homogeneous as possible, thereby facilitating the likelihood of identifying a specific etiology, pathology, and treatment (Robins & Guze, 1970). However, the typical result of this effort is to leave a large number of cases unaccounted for, given that many, if not most patients, have a complex, heterogeneous array of symptoms. (Smith & Combs, 2010). New diagnostic categories are added to the nomenclature in large part to decrease clinicians’ reliance on the nonspecific, wastebasket label of “not otherwise specified” (NOS). NOS has been among the most frequent diagnoses within clinical populations (Widiger & Edmundson, 2011). The function of many of the new disorders that have been added to recent editions of the manual have not involved the identification of uniquely new forms of psychopathology. Their purpose was generally instead to fill problematic gaps. Notable examples for *DSM-IV* included bipolar II (filling a gap between *DSM-III-R* bipolar and cyclothymic mood disorders), mixed anxiety-depressive disorder (a gap between anxiety and mood disorders), depressive personality disorder (personality and mood disorders), and postpsychotic depressive disorder of schizophrenia (schizophrenia and major depression) (Frances et al., 1995).

When new diagnoses are added to fill gaps, they have the ironic effect of creating additional boundary problems (i.e., more gaps), thereby making differential diagnosis even more problematic (Phillips, Price, Greenburg, & Rasmussen, 2003; Pincus, Frances, Davis, First, & Widiger, 1992; Pincus, McQueen, & Elinson, 2003). One must ask, for instance, whether it is really meaningful or useful to determine whether mixed anxiety-depressive disorder is a mood or an anxiety disorder, whether schizoaffective disorder is a mood disorder or a form of schizophrenia (Craddock & Owen, 2010), whether postpsychotic depressive disorder of schizophrenia is a form of depression or schizophrenia, whether early-onset dysthymia is a mood or a personality disorder (Widiger, 2003), whether acute stress disorder is an anxiety or a dissociative disorder (Cardena, Butler, & Spiegel, 2003), whether hypochondriasis is an anxiety disorder or a somatoform disorder, whether body dysmorphic disorder is an anxiety, eating, or somatoform disorder, and whether generalized social phobia is an anxiety or a personality disorder (Widiger, 2001a). In all these cases the most accurate answer is likely to be that each respective disorder includes features of different sections of the diagnostic manual. Yet the arbitrary and procrustean decision of which single section of the manual in which to place each diagnosis must be made by the authors of a categorical diagnostic

manual, and a considerable amount of effort and research are conducted to guide this decision, followed by further discussion and research to refute and debate whatever particular categorical decision was made.

There are comparable examples of what might be arbitrary splitting of categories in *DSM-5* (APA, 2013). *DSM-5* split out from reactive attachment disorder a new diagnosis of disinhibited social engagement disorder. Binge eating disorder (which was originally included within the diagnosis of bulimia nervosa) obtained official recognition. However, for the most part, changes that occurred in *DSM-5* were consistent with the intention to shift the manual more closely toward a dimensional model. For example, there are cases in which previously “distinct” diagnoses were lumped together rather than split apart. For example, *DSM-5* autism spectrum disorder subsumes within one diagnosis *DSM-IV-TR* autistic disorder, Asperger’s disorder, childhood disintegrative disorder, and pervasive developmental disorder not otherwise specified (Lord & Bishop, 2015). The archaic subtypes of schizophrenia were deleted. “Instead a dimensional approach to rating severity of core symptoms of schizophrenia is included in *DSM-5* Section III” (APA, 2013, p. 810). The problematic categorical distinction of substance abuse versus dependence was replaced by a level of severity, from mild, moderate, to severe, based simply on the number of diagnostic criteria. Included in Section III of *DSM-5* is a proposed dimensional trait model that would subsume all of the existing personality disorder categories.

DEPRESSION

Mood disorders is a section of the APA diagnostic manual for which the presence of qualitatively distinct conditions is particularly difficult to defend, especially for the primary diagnoses of dysthymia and major depressive disorder (Brown & Barlow, 2009). Discussed here will be early-onset dysthymia, the continuum of depression, and subthreshold major depression, along with more general points concerning the boundary between mood and personality disorder.

There is no meaningful distinction between early-onset dysthymia, an officially recognized mood disorder diagnosis, and depressive personality disorder, a diagnosis proposed for *DSM-IV* but included within its appendix (APA, 2000). In fact, much of the empirical and conceptual basis for adding dysthymia to the *DSM-III* (i.e., Keller, 1989) came from research and clinical literature concerning depressive personality. As acknowledged by the principal architects of *DSM-III*, dysthymia is “roughly equivalent to the concept of depressive personality” (Spitzer, Williams, & Skodol, 1980, p. 159). Depressive personality disorder was included within the mood disorders section of *DSM-III* despite the recommendations to recognize its existence as a disorder of personality (Klerman, Endicott, Spitzer, & Hirschfeld, 1979), because it resembled the symptomatology of other mood disorders (i.e., depressed mood) more than it resembled the symptoms of other personality disorders (e.g., schizoid). However, whereas mood disorders are defined largely by similarity in content (i.e., mood being the predominant feature; APA, 2013), the personality disorders are defined largely by form (i.e., early onset, pervasive, and chronic) often with quite different content (e.g., schizoid personality disorder has little resemblance to histrionic personality disorder).

After *DSM-III* was published, it became evident that many of the persons who were consistently and characteristically pessimistic, gloomy, cheerless, glum, and sullen (i.e., dysthymic) had been that way since childhood and that in many cases no apparent or distinct age of onset could be established. In other words, its conceptualization as a personality disorder became apparent. *DSM-III-R*, therefore, added an early-onset

subtype (APA, 1987) and acknowledged that “this disorder usually begins in childhood, adolescence, or early adult life, and for this reason has often been referred to as a Depressive Personality” (APA, 1987, p. 231).

Personality disorder researchers proposed again for *DSM-IV* to include a depressive personality disorder diagnosis. They were told that in order for it to be included, it would need to be distinguished from the already established diagnosis of early-onset dysthymia, a task that might be considered rather difficult, if not unfair, given that the construction of dysthymia had been based in large part on the research and literature concerning depressive personality (Keller, 1989). Nevertheless, the *DSM-IV* Personality Disorders Work Group developed a proposed diagnostic criterion set that placed relatively more emphasis on cognitive features not currently included within the criterion set for dysthymia (including early-onset), as well as excluding somatic features (Task Force on *DSM-IV*, 1991). This criterion set was provided to the *DSM-IV* Mood Disorders Work Group to include within their *DSM-IV* field trial to determine empirically whether it was indeed possible to demarcate an area of functioning not yet covered by early-onset dysthymia, or at least identify persons not yet meeting diagnostic criteria for early-onset dysthymia.

The proposed criterion set was successful in reaching this goal (Phillips et al., 1998), which, perhaps, should not be surprising because no criterion set for a categorical diagnosis appears to be entirely successful in covering all cases. However, the Mood Disorders Work Group was equally impressed with the potential utility of the depressive personality diagnostic criteria for further describing and expanding the coverage of dysthymia (Keller et al., 1995) and, therefore, incorporated much of the proposed criteria for depressive personality into their proposed revisions for dysthymia, including early-onset dysthymia (Task Force on *DSM-IV*, 1993). The *DSM-IV* Task Force recognized that it might be problematic to now require the personality disorder researchers to further redefine depressive personality to distinguish it from this new version of dysthymia. Therefore, the *DSM-IV* Task Force decided instead to include both criterion sets in the appendix to *DSM-IV* (along with the original criterion set for dysthymia within the mood disorders section), with the acknowledgment that there may not be any meaningful distinction between them (APA, 1994; Frances et al., 1995). However, depressive personality disorder was not even included within the appendix for *DSM-5*, in large part because the *DSM-5* Personality and Personality Disorders Work Group was not interested in adding any new categorical diagnoses to the manual (Skodol, 2012). Nevertheless, included within *DSM-5* Section III, for emerging measures and models, is a five-domain, 25-trait, dimensional model of personality disorder, which includes the personality trait of “depressivity” that would likely be very difficult to distinguish from an early onset dysthymia.

The Continuum of Depression The common view is that many instances of sadness (or even depression) do not constitute a mental disorder. Persons can be very sad without having a mental disorder (Horwitz & Wakefield, 2007). However, a simple inspection of the diagnostic criteria for major depressive disorder would not lend confidence to a conceptualization of this condition as being qualitatively distinct from “normal” depression or sadness (Andrews et al., 2008). Persons who are just very sad will have the same symptoms of a major depressive disorder but just at a lesser degree of severity. Persons who are very sad will have a depressed mood, decreased interest in pleasurable activities, appetite change, decreased energy, and lower self-esteem. Each of the diagnostic criteria for a major depressive disorder is readily placed along a continuum of severity that would shade imperceptibly into what would be considered a “normal” sadness. *DSM-5*,

therefore, includes specific thresholds for each of them, but they are clearly arbitrary thresholds that simply demarcate a relatively higher level of severity from a lower level of severity (e.g., “nearly every day” or “markedly diminished,” and at least a “2-week” period; APA, 2013, p. 188). The diagnosis requires five of these nine criteria, with no apparent rationale for this threshold other than it would appear to be severe enough to be defensible to be titled as a “major” depressive episode, as distinguished from a “minor” depressive episode, which is then distinguished from “normal” sadness (APA, 2013).

Depression does appear to shade imperceptibly into “normal” sadness (Andrews et al., 2008). Üstün and Sartorius (1995) conducted a study of 5,000 primary-care patients in 14 countries and reported a linear relationship between disability and number of depressive symptoms. Kessler, Zhao, Blazer, and Swartz (1997) examined the distribution of minor and major symptoms of depression using data from the National Comorbidity Survey. They considered the relationship of these symptoms with parental history of mental disorder, number and duration of depressive episodes, and comorbidity with other forms of psychopathology. Respective relationships increased with increasing number of symptoms, with no clear, distinct break. Sakashita, Slade, and Andrews (2007) examined the relationship between the number of symptoms of depression and four measures of impairment using data from the Australian National Survey of Mental Health and Well-Being, and found that the relationship was again simply linear, with no clear or natural discontinuity to support the selection of any particular cutoff point.

Taxometrics refers to a series of related statistical techniques to detect whether a set of items is optimally understood as describing (assessing) a dimensional or a categorical construct (Beauchaine, 2007; Ruscio & Ruscio, 2004). Other statistical techniques, such as cluster or factor analyses, presume that the construct is either categorical or dimensional (respectively) and then determines how best to characterize the variables or items in either a categorical or dimensional format, respectively. Taxometric analyses are uniquely intriguing in providing a direct test of which structural model is most valid in characterizing the set of items or variables.

A number of taxometric studies have been conducted on various symptoms and measures of depression. The first was provided by Ruscio and Ruscio (2000) in their taxometric analyses of items from the Beck Depression Inventory and, independently, items from the Zung Self-Rating Depression Scale in a sample of 996 male veterans who had received a diagnosis of post-traumatic stress disorder but who also had a high prevalence rate of major depressive disorder, as well as a sample of 8,045 individuals from the general population (60% female) who completed the items from the Depression scale of the Minnesota Multiphasic Personality Inventory. They indicated that “results of both studies, drawing on three widely used measures of depression, corroborated the dimensionality of depression” (Ruscio & Ruscio, 2000, p. 473).

The taxometric findings of Ruscio and Ruscio (2000) have been subsequently replicated, including taxometric analyses of: (a) structured interview assessments of *DSM-IV-TR* major depressive disorder symptoms and, independently, items from the Beck Depression Inventory in a sample of 960 psychiatric outpatients (Slade, 2007); (b) major depressive disorder diagnostic criteria assessed in the 1,933 persons who endorsed at least one criterion in the Australian National Survey of Mental Health and Well-Being (Slade & Andrews, 2005); (c) self- and parent-reported depressive symptoms in 845 children and adolescents drawn from the population-based Georgia Health and Behavior Study (Hankin, Fraley, Lahey, & Waldman, 2005); (d) responses to MMPI-2 depression scales completed by 2,000 psychiatric inpatients and outpatients (Franklin, Strong, & Greene, 2002); (e) epidemiologic survey of depressive symptoms within 392 college

students (Baldwin & Shean, 2006); (f) Beck Depression Inventory items reported by 2,260 college students (Ruscio & Ruscio, 2002); and (g) depression items in the Composite International Diagnostic Interview as administered in the National Comorbidity Survey to 4,577 participants who endorsed the item concerning a lifetime occurrence of sad mood or loss of interest (Prisciandoro & Roberts, 2005). However, in contrast to the findings from these eight taxometric studies, three taxometric studies have supported a latent class taxon, including semistructured interview assessments of *DSM-IV-TR* major depressive disorder symptoms in 1,800 psychiatric outpatients (Ruscio, Zimmerman, McGlinchey, Chelminski, & Young, 2007), interview and self-report assessments of depression in 1,400 high school students (Solomon, Ruscio, Seeley, & Lewinsohn, 2006), and self-report and interview data on depression in 378 adolescents receiving treatment for depression (Ambrosini, Bennett, Cleland, & Haslam, 2002). In sum, the bulk of the evidence does appear to support a dimensional understanding of depression, but there is some ambiguity and inconsistency in the taxometric findings (Beach & Amir, 2003; Beauchaine, 2007; Widiger, 2001b).

Subthreshold Major Depression Depression is a section of the diagnostic manual that does have considerable difficulty identifying or defining a clear boundary with “normal” sadness. Subthreshold cases of depression (i.e., persons with depressive symptoms below the threshold for a *DSM-5* mental disorder diagnosis) are clearly responsive to pharmacologic interventions, do seek treatment for their sadness, and are often being treated within primary care settings (Judd, Schettler, & Akiskal, 2002; Pincus et al., 2003). These facts contributed to the proposal to include within an appendix to *DSM-IV* a diagnosis of “minor depressive disorder,” which it is acknowledged “can be difficult to distinguish from periods of sadness that are an inherent part of everyday life” (APA, 2000, p. 776).

Wakefield (2016) has been critical of the criteria for major depressive disorder for including an inconsistently applied exclusion criterion. The *DSM-IV-TR* excluded most instances of depressive reactions to the loss of a loved one (i.e., uncomplicated bereavement). Depression after the loss of a loved one could be considered a mental disorder if “the symptoms persist for longer than 2 months” (APA, 2000, p. 356). Allowing persons just 2 months to grieve before one is diagnosed with a mental disorder does appear to be rather arbitrary. More importantly, it is also unclear if depression in response to other losses should not also then be comparably excluded, such as depression secondary to the loss of a job or physical health (Wakefield, Schimtz, First, & Horwitz, 2007). Why the loss of a person is treated so differently from the loss of health or a job is not clear.

On the other hand, one could argue alternatively that all exclusion criteria should be removed. Perhaps the problem is not that depression in response to a loss of a job or physical disorder should not be a disorder, analogous to bereavement (Wakefield, 2007), but that bereavement should be a mental disorder (Bonanno et al., 2007; Forstmeier & Maercker, 2007; Widiger & Miller, 2008). What is currently considered to be a normal depression in response to the loss of a loved one does often, if not always, include pain and suffering, meaningful impairment to functioning, and is outside of the ability of the bereaved person to fully control, the essential hallmarks of a mental disorder (Widiger & Sankis, 2000). The depression is a reasonable response to the loss of a loved one, a psychological trauma, but many physical disorders and injuries are reasonable and understandable responses to a physical trauma. The loss is perhaps best understood as part of the etiology for the disorder, not a reason for which a disorder is not considered to be present (Widiger, 2012a).

One of the major revisions for *DSM-5* was indeed to weaken the distinction between normal bereavement and a mental disorder of depression. *DSM-5* no longer excludes the

diagnosis of a major depressive disorder if the depression is secondary to the loss of a loved one. “Responses to a significant loss (e.g., bereavement, financial ruin, losses from a natural disaster, a serious medical illness or disability)” (APA, 2013, p. 161) can now all be diagnosed as a mental disorder.

ALCOHOL ABUSE AND DEPENDENCE

One of the sections of the diagnostic manual for which a categorical model of classification and conceptualization has had a firmly entrenched tradition has been the substance use disorders. Alcoholism, in particular, has long been conceptualized as a qualitatively distinct disease (Garbutt, 2008; Goodwin & Guze, 1996; Nathan, Conrad, & Skinstad, 2016). A significant change to its diagnosis and conceptualization occurred with *DSM-III-R* (APA, 1987) when it shifted from being understood as a purely physiological dependence to a broader and less specific behavioral dependence (Carroll, Rounsaville, & Bryant, 1994; Edwards & Gross, 1976). “Dependence is seen as a complex process that reflects the central importance of substances in an individual’s life, along with a feeling of compulsion to continue taking the substance and subsequent problems controlling use” (Schuckit et al., 1999, p. 41). To many, though, the diagnosis does still refer to a disease, but one that is developed through a normal social-learning history (Kandel, 1998).

However, the diagnosis has been broadened considerably in *DSM-5* wherein it is referred to as a behavioral addiction, and would, therefore, be listed along with pathological gambling (Martin, 2005; Petry, 2006; Potenza, 2006). Pathological gambling has been considered by many substance use and pathological gambling researchers and clinicians to be an addiction, but it could not be included within the substance-related disorders section because it does not involve the ingestion of a substance (Bradford, Geller, Lesieur, Rosenthal, & Wise, 1996). This requirement has been deleted in *DSM-5*, with the section renamed “substance-related and addictive disorders” (APA, 2013).

This new class of disorders could eventually contain a wide variety of possible behavioral addictions, including an excessive participation in shopping, sex, or the Internet. As stated at one point on the *DSM-5* website, along with pathological gambling, “other addiction-like behavioral disorders such as ‘Internet addiction’ . . . will be considered as potential additions to this category as research data accumulate” (APA, 2010, “Substance Related Disorders,” para. 1). The preface to this section of the diagnostic manual explicitly states that Internet, sex, and shopping addictions are not included because there is currently insufficient evidence to support their validity. However, it is apparent that the broadening of the concept of substance dependence to include behavioral forms of addiction will encourage clinicians to diagnose these additional variants. “This ‘slippery slope’ makes it difficult to know where to draw the line demarcating any excessive behavior as an addiction” (Petry, 2005a, p. 7). Provided within an appendix to *DSM-5* for conditions needing further study is Internet gaming disorder (i.e., behavioral addiction to Internet games), including its diagnostic criteria, risk factors, prevalence, and differential diagnosis. Proposed for inclusion in the sex disorders section of *DSM-5* was hypersexual disorder, which can indeed be identified as a sex addiction (Kafka, 2010; Ragan & Martin, 2000; Winters, 2010).

The distinction between harmful substance use and a substance use disorder is itself unclear and indistinct. Presumably, persons can choose to consume alcohol without being compelled to do so by the presence of a mental disorder. The *DSM-5* diagnostic criteria for a substance use disorder are fallible indicators for harmful and dyscontrolled usage (e.g., use more than originally intended, continue to use despite social consequences, and reduction of other activities in preference for the substance; APA, 2013). The

more of these indicators of dyscontrol that are present, the more likely it is that there is, in fact, dyscontrol, but none can be considered infallible in the identification of dyscontrol and no particular number of them clearly demarcates a boundary between the presence and absence of dyscontrolled usage. It is not even clear how much purportedly volitional or regulatory control a normal, healthy person has over adaptive, healthy behaviors (Bargh & Ferguson, 2000; Howard & Conway, 1986; Kirsch & Lynn, 2000; Wegner & Wheatley, 2000), let alone the boundary between controlled and dyscontrolled harmful behaviors. Both normal and abnormal human functioning are, at best, the result of a complex interaction of apparent volitional choice with an array of biogenetic and environmental determinants.

The distinction between *DSM-IV-TR* alcohol abuse and dependence was equally fuzzy. Abuse has generally been considered to be simply a residual category and/or a less severe form of dependence (Saunders, 2006). Some of the diagnostic criteria for abuse were contained with the criterion set for dependence (e.g., interference with social, occupational, or recreational activities), which is always a problem for disorders that would be considered to be qualitatively distinct. It is largely for this reason that the formal distinction between abuse and dependence was abandoned in *DSM-5* (APA, 2013).

The diagnostic criteria for alcohol dependence were written largely in an effort to describe a prototypic case of the disorder, a practice that is still followed for all but a few of the disorders throughout *DSM-5*. However, prototypic cases are typically understood to be the most severe cases and/or the cases that involve all possible features or symptoms of the disorder (First & Westen, 2007). The construction of diagnostic criterion sets in terms of prototypic cases does work to an extent, but it also fails to adequately describe many of the actual cases, including the subthreshold cases, and perhaps even the typical cases, depending upon the distribution of features and symptomatology within the population. Constructing criterion sets in terms of prototypic cases can be comparable to confining the description and diagnosis of (for instance) intellectual disability to the most severe variant, and then attempting to apply this description to mild and moderate variants; a method of diagnosis that would obviously be sorely limited in the description, assessment, and diagnosis of intellectual disability. The limitations of the prototypic case approach are now becoming more closely appreciated in the diagnosis of dyscontrolled substance use and, more specifically, alcohol use disorders, where the existing criterion sets are failing to adequately describe (for instance) dyscontrolled and impairing alcohol usage in adolescents (Crowley, 2006) and other “diagnostic orphans” (Saunders, 2006).

The limitation is perhaps most clearly demonstrated in studies using item response theory (IRT) methodology. IRT allows the researcher to investigate the fidelity with which items are measuring a latent trait along the length of its continuum, contrasting, for instance, the amount of information that different diagnostic criteria provide at different levels of the latent trait (Muthen, 2006). Some diagnostic criteria, for instance, might be most useful in distinguishing among mild cases of the disorder, whereas other diagnostic criteria are most useful in distinguishing among the more severe cases of the disorder. A number of IRT analyses have now been conducted for the diagnosis of substance dependence (and other disorders) and the findings are remarkably consistent (Reise & Waller, 2009). The existing diagnostic criterion sets (and/or symptoms currently assessed in existing instruments) cluster around the high end of the disorder, as opposed to being spread out across the entire range of the continuum (e.g., Kahler & Strong, 2006; Langenbucher et al., 2004; Muthen, 2006; Proudfoot, Baillie, & Teesson, 2006; Saha, Chou, & Grant, 2006). This consistent pattern of results is in stark contrast to what is traditionally found in cognitive ability testing, where IRT analyses have been largely developed and previously applied (Reise & Waller, 2009).

It is evident from the IRT analyses that the existing diagnostic criterion sets are sorely inadequate in characterizing the lower and even middle range of substance use dysfunction, consistent with the *DSM-IV-TR* and *DSM-5* descriptions being confined to a prototypic (most severe) case. If alcohol usage was conceptualized along a continuum, the job of the authors of the diagnostic manual would be to construct a description and measurement of the disorder that adequately represent each of the levels or degrees to which the disorder appears along this continuum, rather than attempting to describe the prototypic case. The *DSM-IV-TR* criterion set was confined to the most severe cases and was not describing well a large proportion of persons with clinically significant alcohol use dysfunction. As a result, clinicians had to rely on the nondescriptive, wastebasket diagnosis of NOS to describe the lower range of the continuum (Saunders, 2006).

A step in the direction of recognizing the continuous nature of substance use disorder was incorporated in *DSM-5*. Along with the abandonment of the distinction between abuse and dependence, *DSM-5* also includes a rating of severity for a substance use disorder, depending upon the number of diagnostic criteria that are met. For example, a "mild" substance use disorder is suggested by the presence of just two to three features (APA, 2013). However, the features for the mildest and the most severe cases are still the same. What would be more informative would be to have the different levels defined by the features that are relatively specific to that level, analogous to how the comparable distinctions are made between the levels of severity for an intellectual disability.

PERSONALITY DISORDERS

There are three major problematic boundaries for the personality disorders: the boundaries between personality disorders and other mental disorders; the boundaries between personality disorders and normal personality; and the boundaries among the personality disorders. The boundaries with other mental disorders will be discussed first, followed by the other two boundaries.

Boundaries with Other Mental Disorders Among the proposals considered for the personality disorders at the *DSM-5* Research Planning Conference (Kupfer et al., 2002) was the suggestion to replace the diagnosis of personality disorder with early-onset and chronic variants of existing Axis I mental disorders (First et al., 2002). This might appear at first blush to be a radical proposal, and perhaps it is. However, it does have support from a variety of sources.

There is no clear or consistent boundary between the personality disorders and many other mental disorders, particularly the mood, anxiety, impulse dyscontrol, and psychotic disorders (Krueger, 2005). In fact, *DSM-5* schizotypal personality disorder has long been classified as a form of schizophrenia rather than as a personality disorder in the World Health Organization's *International Classification of Diseases (ICD-10; WHO, 1992)*, the parent classification for the APA's *DSM-5*. Schizotypal personality disorder is genetically related to schizophrenia, most of its neurobiological risk factors and psychophysiological correlates are shared with schizophrenia (e.g., eye tracking, orienting, startle blink, and neurodevelopmental abnormalities), and the treatments that are effective in ameliorating schizotypal symptoms overlap with treatments used for persons with Axis I schizophrenia (Kwapil & Barrantes-Vidal, 2012).

On the other hand, there are also compelling reasons for continuing to consider schizotypal as a personality disorder (Kwapil & Barrantes-Vidal, 2012; Raine, 2006). Simply because a personality disorder shares a genetic foundation with another disorder does not then indicate that it is a form of that other disorder. Running counter to viewing

schizotypal personality disorder as a variant of schizophrenia are the following: the disorder is far more comorbid with other personality disorders than it is with any other schizophrenia-related disorder; persons with schizotypal personality disorder rarely go on to develop schizophrenia; and schizotypal symptomatology is seen in quite a number of persons within the general population who lack any genetic association with schizophrenia and who would not be appropriately described as having some form of schizophrenia (Raine, 2006).

However, a fate similar to that of schizotypal personality disorder in *ICD-10* (WHO, 1992) and depressive personality disorder in *DSM-IV* (APA, 1994) could await the other personality disorder diagnostic categories in a future edition of the diagnostic manual (First et al., 2002). For example, social phobia was a new addition to *DSM-III* (Spitzer et al., 1980; Turner & Beidel, 1989). It was considered then to be a distinct, circumscribed condition, consistent with the definition of a phobia as a “persistent, irrational fear of a *specific* object, activity, or situation” (APA, 1994, p. 336, our emphasis). However, it became apparent to anxiety disorder researchers and clinicians that the fears of many of their patients were rarely so discrete and circumscribed (Spitzer & Williams, 1985). Therefore, the authors of *DSM-III-R* developed a generalized subtype for when “the phobic situation includes most social situations” (APA, 1987, p. 243). *DSM-III-R* generalized social phobia, however, overlapped substantially with the *DSM-III* diagnosis of avoidant personality disorder. Both were concerned with a pervasive, generalized social insecurity, discomfort, and timidity. Efforts to distinguish them have indicated only that avoidant personality disorder tends to be, on average, relatively more dysfunctional than generalized social phobia (Sanislow, da Cruz, Gianoli, & Reagan, 2012; Turner, Beidel, & Townsley, 1992).

DSM-IV provided no solution. In fact, it was acknowledged that generalized social phobia emerged “out of a childhood history of social inhibition or shyness” (APA, 1994, p. 414), consistent with the fundamental definition of a personality disorder. An argument raised for classifying this condition as an anxiety disorder rather than a personality disorder was that many persons with the disorder benefit from pharmacologic interventions (Liebowitz, 1992). “One may have to rethink what the personality disorder concept means in an instance where 6 weeks of phenelzine therapy begins to reverse long-standing interpersonal hypersensitivity as well as discomfort in socializing” (Liebowitz, 1992, p. 251). Of course, one might also have to rethink what the anxiety disorder concept means when an antidepressant is an effective form of treating an anxiety disorder. In addition, it is unclear why a maladaptive personality trait should not be responsive to a pharmacologic intervention (Knorr & Kessing, 2010; Knutson et al., 1998; Tang et al., 2009). In any case, the authors of *DSM-IV-TR* concluded that these two conditions “may be alternative conceptualizations of the same or similar conditions” (APA, 2000, p. 720).

There does not currently appear to be a meaningful distinction between avoidant personality disorder and generalized social phobia (APA, 2000; Sanislow et al., 2012; Tyrer, 2005; Widiger, 2003). Some suggest that the best solution is to simply abandon the personality disorder diagnosis in favor of the generalized anxiety disorder (First et al., 2002; Schneider, Blanco, Anita, & Liebowitz, 2002). “We believe that the more extensive evidence for syndromal validity of social phobia, including pharmacological and cognitive-behavioral treatment efficacy, make it the more useful designation in cases of overlap with avoidant personality” (Liebowitz et al., 1998, p. 1060). The reference to treatment efficacy by Liebowitz et al. (1998) falls on receptive ears for many clinicians who struggle to obtain insurance coverage for the treatment of maladaptive personality functioning. It is often reported that a personality disorder diagnosis is stigmatizing, due

in large part to its placement on a distinct axis that carries the implication of being an untreatable, lifetime disorder (Frances et al., 1991; Kendell, 1983). For reasons such as these, the Assembly of the APA (which has authoritative governance over the approval of revisions to the diagnostic manual) has repeatedly passed resolutions to explore proposals to move one or more personality disorders to Axis I, in large part to address the stigma and lack of reimbursement for their treatment. This proposal is now moot, given the abandonment of the multiaxial system in *DSM-5* (APA, 2013).

Future proposals of the Assembly, though, might now take the form of shifting individual personality disorders into a respective mood, anxiety, or impulse dyscontrol disorder as an early-onset, chronic variant. Just as the depressive, schizotypal, and avoidant personality disorders could be subsumed within an existing section of Axis I, borderline personality disorder could be reclassified as a mood dysregulation and/or impulse dyscontrol disorder; obsessive-compulsive personality disorder could be reclassified as a generalized and chronic variant of obsessive-compulsive anxiety disorder (although there is, in fact, only weak evidence to support a close relationship between the obsessive-compulsive anxiety and personality disorders; Samuels & Costa, 2012); and antisocial personality disorder could be reclassified as an adult variant of conduct (disruptive behavior) disorder. In *DSM-5*, schizotypal personality disorder is cross-listed within the schizophrenia spectrum section, and antisocial is cross-listed within the disruptive behavior disorders section (APA, 2013).

In sum, the future for many of the personality disorder diagnostic categories might be reformulations as early-onset chronic variants of existing Axis I disorders, as explicitly proposed at the initial *DSM-5* Research Planning Conference (First et al., 2002). A difficulty for any such proposal, beyond the fundamental concern that the diagnostic manual would no longer recognize the existence of maladaptive personality functioning, is that it might just create more problems than it solves (Widiger, 2003). It is well established that persons have constellations of maladaptive personality traits that have significant consequential life outcomes (Ozer & Benet-Martinez, 2006; Roberts & DelVecchio, 2000). These personality traits are not currently well described by just one or even multiple personality disorder diagnoses (Clark, 2007; Trull & Durrett, 2005; Widiger, 2012b) and will be described even less well by multiple diagnoses across the broad classes of mood, anxiety, impulse dyscontrol, psychotic, and disruptive behavior disorders.

Boundaries with Other Personality Disorders and Normal Personality Rounsaville et al. (2002) suggested that the first section of the diagnostic manual to shift to a dimensional classification should be the personality disorders. The personality disorders have been among the most problematic of disorders to be diagnosed categorically (First et al., 2002; Kendell, 1989). It is the norm for patients to meet diagnostic criteria for more than one personality disorder (Clark, 2007; Lilienfeld et al., 1994; Livesley, 2003; Trull & Durrett, 2005). Excessive diagnostic co-occurrence was, in fact, the primary reason that five of the 10 personality disorder diagnoses were proposed for deletion in *DSM-5* (Skodol, 2012). The excessive co-occurrence may be the result of the nature of the construct of personality. For instance, it is perhaps self-evident that persons are not well described by just one trait term (e.g., introverted). Each person has instead a constellation of personality traits, many of which are adaptive, and some of which may also be maladaptive. There is little reason to think that it would be different when a person is said to have a personality disorder (Widiger & Trull, 2007).

There also appears to be no clear or distinct boundary between normal and abnormal personality functioning. The *DSM-IV-TR* diagnostic thresholds were not set at a point that has any theoretical or clinical significance. They were arbitrarily set at half or one

more than half of the diagnostic criteria (APA, 2000). In fact, all the personality disorders are readily understood as extreme and/or maladaptive variants of normal personality traits distributed within the general population; more specifically, the domains and facets of the five-factor dimensional model (FFM) of general personality structure (Widiger, Samuel, Mullins-Sweatt, Gore, & Crego, 2012; Widiger & Trull, 2007).

The FFM consists of five broad domains of general personality functioning: neuroticism (or emotional instability), extraversion versus introversion, openness versus closedness, agreeableness versus antagonism, and conscientiousness versus undependability. Studies have now well documented that all of the *DSM-IV-TR* personality disorder symptomatology is readily understood as maladaptive variants of the domains and facets of the FFM (O'Connor, 2002, 2005; Samuel & Widiger, 2008; Saulsman & Page, 2004; Widiger & Costa, 2002; Widiger et al., 2012). Saulsman and Page (2004) concluded on the basis of their meta-analytic review of the FFM-personality disorder research that "each of the personality disorders shows associations with the five-factor model that are meaningful and predictable given their diagnostic criteria" (p. 1075). As acknowledged by Livesley (2001b), "all categorical diagnoses of *DSM* can be accommodated within the five-factor framework" (p. 24). As expressed by Clark (2007), "the five-factor model of personality is widely accepted as representing the higher-order structure of both normal and abnormal personality traits" (p. 246). The problematic diagnostic co-occurrence among the *DSM-IV-TR* personality disorders is well explained by the extent to which each of the personality disorders shares traits of the FFM (Lynam & Widiger, 2001; O'Connor, 2005).

A team of researchers are now working together to develop a Hierarchical Taxonomy of Psychopathology (HiTOP) as an alternative to the existing categorical nomenclature (Kotov et al., 2017). The HiTOP model includes two broad domains of externalizing dysfunction and emotional dysregulation that cut across the mood, anxiety, substance use, psychotic, and personality disorders. At the five-domain level are maladaptive personality traits (i.e., internalizing, thought disorder, misconduct, antagonism, and detachment) which are said to align with the FFM of general personality structure (Kotov et al., 2017).

Proposed for *DSM-5* was another five-domain, 25-trait dimensional model that represented "maladaptive variants of the five domains of the extensively validated and replicated personality model known as the 'Big Five,' or the Five Factor Model of personality" (APA, 2013, p. 773). These five domains are negative affectivity (FFM neuroticism), detachment (FFM introversion), psychoticism (FFM openness), antagonism (FFM antagonism), and disinhibition (low FFM conscientiousness) (Krueger, Derringer, Markon, Watson, & Skodol, 2012). The *DSM-5* dimensional trait model does differ in important ways from the FFM; more specifically, it is confined to maladaptive personality functioning and it is unipolar in structure (e.g., it does not recognize any maladaptive variants of extraversion that is opposite to detachment, or agreeableness that is opposite to antagonism). Nevertheless, there is strong conceptual and empirical support for its alignment with the five domains of the FFM (APA, 2013; De Fruyt, De Clercq, De Bolle, Markon, & Krueger, 2013; Gore & Widiger, 2013; Krueger & Markon, 2014; Thomas et al., 2013).

The FFM of personality disorder has a number of advantages over the existing categorical approach (Widiger et al., 2012). It would help with the stigmatization of a personality disorder diagnosis because no longer would a personality disorder be conceptualized as something that is qualitatively distinct from general personality traits. All persons vary in the extent of their neuroticism, the extent to which they are agreeable versus antagonistic, and the extent to which they are conscientious, impulsive, and/or

undependable (McCrae & Costa, 2003). The FFM of personality disorder provides not only a more precise description of each person's individual personality structure but also a more complete picture through the inclusion of normal, adaptive traits, recognizing thereby that a 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 maladaptive personality traits. Some of the personality strengths may also be quite relevant to treatment, such as openness to experience, indicating an interest in exploratory psychotherapy; agreeableness, indicating an engagement in group therapy; and conscientiousness, indicating a willingness and ability to adhere to the demands and rigor of dialectical behavior therapy (Sanderson & Clarkin, 2002). The FFM of personality disorder would also bring to the psychiatric nomenclature a wealth of knowledge concerning the origins, childhood antecedents, stability, and universality of the dispositions that are known with respect to the FFM (Widiger et al., 2012; Widiger & Trull, 2007).

The Nomenclature Work Group at the initial DSM-5 Research Planning Conference called for the replacement of the *DSM-IV-TR* diagnostic categories by a dimensional model (Rounsaville et al., 2002). "If a dimensional system of personality performs well and is acceptable to clinicians, it might then be appropriate to explore dimensional approaches in other domains" (Rounsaville et al., 2002, p. 13). A subsequent APA *DSM-5* preparatory conference was devoted to making this shift, providing its extensive empirical support (Widiger et al., 2005). The proposal of the DSM-5 Personality and Personality Disorders Work Group, however, was more conservative. The initial proposal was not to replace the diagnostic categories with a dimensional trait model. It was only to provide a dimensional trait model as a supplement for the existing diagnostic categories to be used when the patient failed to meet the diagnostic criteria for a respective personality disorder category (Skodol, 2012). In the final version of the proposal, six diagnostic categories remained. The only time in which a clinician would describe a patient in terms of the five trait domains would be when the patient failed to meet the criteria for one of the six traditional syndromes. Traits from the dimensional model were now included with the diagnostic criterion sets of these categories, but they were not even considered to be sufficient for the diagnosis. Also included were deficits in the sense of self and interpersonal relatedness obtained from psychodynamic literature that were considered to be independent of maladaptive personality traits (Skodol, 2012).

The proposal was ultimately rejected, largely because of inadequate empirical support (Skodol, Morey, Bender, & Oldham, 2013). The initial dimensional trait proposal had been created *de novo* by work group members, thereby lacking a strong empirical foundation. In addition, rather than closely tying the proposal to the well-validated FFM, the authors explicitly distanced the proposal from the FFM (i.e., Clark & Krueger, 2010). In the last year of the proposal it was more closely tied to the FFM (APA, 2012) but the DSM-5 Scientific Review Committee was not provided with the FFM-personality disorder research (Widiger, 2013). By then strong opposition to the proposal had also accumulated (e.g., Clarkin & Huprich, 2011; Gunderson, 2010; Shedler et al., 2010). Further, the dimensional trait model was structurally embedded within a much more extensive and complex proposal that included the additional features of self pathology derived from psychodynamic theory and research (Skodol, 2012). Nevertheless, the proposal was at least included in Section III of *DSM-5* for emerging measures and models as an alternative to the *DSM-5* diagnostic categories that were equivalent to the *DSM-IV-TR* syndromes, carried over without any revision.

A more radical proposal has been made for the 11th edition of the WHO *International Classification of Diseases*, in which all of the current *ICD-10* personality syndromes

(comparable to the *DSM-IV* and *DSM-5* syndromes) would be replaced with five broad domains of maladaptive personality traits: negative affective, detachment, dissocial, disinhibition, and anankastic. These traits are also said to be aligned with the FFM: “Negative Affective with neuroticism, Detachment with low extraversion, Dissocial with low agreeableness, Disinhibited with low conscientiousness and Anankastic with high conscientiousness” (Mulder, Horwood, Tyrer, Carter, & Joyce, 2016, p. 85). Most importantly, “the proposed *ICD-11* classification abolishes all type-specific categories of personality disorder” (Tyrer et al., 2015, p. 721). In this regard, the *ICD-11* proposal may indeed represent a paradigm shift in how personality disorders are conceptualized and diagnosed within the next edition of the ICD (Tyrer, 2014). This *ICD-11* proposal may, of course, meet the same fate as the *DSM-5* proposal.

INTELLECTUAL DISABILITY

Rounsaville et al. (2002) and others suggested that the personality disorders section should be the first to shift toward a dimensional classification, apparently not fully appreciating that one section has long been dimensional: intellectual disability (previously called mental retardation). Many persons write as if a shift to a dimensional classification represents a new, fundamental change to the diagnostic manual (e.g., Regier, 2008). For much of the manual such a shift would certainly represent a fundamental change in how mental disorders are conceptualized and classified (Guze, 1978; Guze & Helzer, 1987; Robins & Guze, 1970). Nevertheless, there is a clear precedent for a dimensional classification of psychopathology already included within *DSM-5*: the diagnosis of intellectual disability (APA, 2013).

Intellectual disability in *DSM-5* is diagnosed along a continuum of cognitive and social functioning—more precisely, deficits in adaptive functioning and intellectual functions confirmed by standardized intelligence testing. This typically translates to an intelligence quotient (IQ) score of 70 ± 5 (APA, 2013). An IQ of 70 does not carve nature at a discrete joint or identify the presence of a qualitatively distinct condition, disease, or disorder. On the contrary, it is a quantitative cutoff point along the dimension of intelligence. An IQ of 70 is simply two standard deviations below the mean (American Association of Mental Retardation [AAMR], AAMR, 2002).

Intelligence involves the ability to reason, plan, solve problems, think abstractly, comprehend complex ideas, learn quickly, and learn from experience (AAMR, 2002). Intelligence, like personality, is distributed as a hierarchical, multifactorial continuous variable. Most persons’ levels of intelligence, including most of those with an intellectual disability, are the result of a complex interaction of multiple genetic, fetal, and infant development, and environmental influences (Deary, Spinath, & Bates, 2006). There are no discrete breaks in its distribution that would provide an absolute distinction between normal and abnormal intelligence. The point of demarcation for the diagnosis of an intellectual disability is an arbitrary, quantitative distinction along the normally distributed levels of hierarchically and multifactorially defined intelligence. This point of demarcation is arbitrary in the sense that it does not carve nature at a discrete joint, but it was not, of course, randomly or mindlessly chosen. It is a defensible selection that was informed by the impairments in adaptive functioning commonly associated with an IQ of 70 or below (AAMR, 2002). For example, a previous cutoff point of an IQ of 79 identified too many persons who were in fact able to function independently.

In addition, the disorder of intellectual disability is not diagnosed simply on the basis of an IQ of 70 or below (an IQ score is not even necessarily required in *DSM-5*; APA, 2013). It must be accompanied by a documented impairment to functioning. “Mental

retardation is a disability characterized by significant limitation in both intellectual functioning and in adaptive behavior as expressed in conceptual, social and practical adaptive skills" (AAMR, 2002, p. 23). Persons with IQ scores lower than 70 who can function effectively would not be diagnosed with the disorder (APA, 2013). The diagnosis is understood in the context of the social and practical requirements of everyday functioning that must be met by the person (Luckasson & Reeve, 2001). The purpose of the diagnosis is not to suggest that a specific pathology is present, but to identify persons who, on the basis of their intellectual disability, would be eligible for public health care services and benefits to help them overcome or compensate for their relatively lower levels of intelligence.

Many instances of intellectual disability are due in large part to specific etiologies, such as tuberous sclerosis, microcephaly, von Recklinghausen's disease, trisomy 21, mosaicism, Prader-Willi syndrome, and many, many more (Kendell & Jablensky, 2003). Nevertheless, the disorders that result from these specific etiologies are generally understood as medical conditions, an associated feature of which is also the intellectual disability that would be diagnosed concurrently and independently. The intellectual disability that is diagnosed as a mental disorder within *DSM-5* is itself a multifactorially determined and heterogeneous dimensional construct falling along the broad continuum of intellectual functioning. "The causes of intellectual disabilities are typically complex interactions of biological, behavioral/psychological, and socio-cultural factors" (Naglieri, Salter, & Rojahn, 2008, p. 409). An important postnatal cause for intellectual disability is "simply" psychosocial deprivation, resulting from poverty, chaotic living environment, and/or child abuse or neglect. No clear etiology will be evident in up to 40% of cases. In sum, intellectual disability may serve as an effective model for the classification of the rest of the diagnostic manual, including mood, psychotic, personality, anxiety, and other mental disorders.

DSM-5 AND DIMENSIONAL CLASSIFICATION

The modern effort to demarcate a taxonomy of distinct clinical conditions is often traced to Kraepelin (1917). Kraepelin (1917), however, had himself acknowledged that "wherever we try to mark out the frontier between mental health and disease, we find a neutral territory, in which the imperceptible change from the realm of normal life to that of obvious derangement takes place" (p. 295). The Robins and Guze (1970) paradigm for the validation of categorical diagnosis has also been widely influential within psychiatry (Klerman, 1983; Kupfer et al., 2002). In 1989, L. Robins and Barrett (1989) edited a text in honor of this classic paper. Kendell (1989) provided the final word in his closing chapter. His conclusions, however, were curiously negative. "Ninety years have now elapsed since Kraepelin first provided the framework of a plausible classification of mental disorders. Why then, with so many potential validators available, have we made so little progress since that time?" (Kendell, 1989, p. 313). He answered his rhetorical question in the next paragraph: "One important possibility is that the discrete clusters of psychiatric symptoms we are trying to delineate do not actually exist but are as much a mirage as discrete personality types" (Kendell, 1989, p. 313).

It is stated in the preface to *DSM-5* that "this edition of *DSM* was designed first and foremost to be a useful guide to clinical practice" (APA, 2013, p. xii). First (2005) argued, in his rejoinder to a proposal to shift the diagnostic manual into a dimension model, that "the most important obstacle standing in the way of its implementation in *DSM-5* (and beyond) is questions about clinical utility" (p. 561). However, one should question whether the existing diagnostic manual in fact has appreciable clinical utility

(Mullins-Sweatt & Widiger, 2009). “Apologists for categorical diagnoses argue that the system has clinical utility being easy to use and valuable in formulating cases and planning treatment [but] there is little evidence for these assertions” (Livesley, 2001a, p. 278). First (2005) suggested that “the current categorical system of *DSM* has clinical utility with regard to the treatment of individuals” (p. 562), yet elsewhere has stated that “with regard to treatment, lack of treatment specificity is the rule rather than the exception” (Kupfer et al., 2002, p. xviii). The heterogeneity of diagnostic membership, the lack of precision in description, the excessive diagnostic co-occurrence, the failure to lead to a specific diagnosis, the reliance on the “not otherwise specified” wastebasket diagnosis, and the unstable and arbitrary diagnostic boundaries of the *DSM-IV-TR* and *DSM-5* categories, are matters of clinical utility that are a source of considerable frustration for clinicians and public health care agencies (Mullins-Sweatt & Widiger, 2009).

The primary goal of the authors of the *DSM-5* was to shift the manual toward a dimensional classification (Helzer, Wittchen, Krueger, & Kraemer, 2008b; Regier, Narrow, Kuhl, & Kupfer, 2010). This intention represented an explicit recognition of the failure of the categorical system (Goldberg, 2010, 2015). And the *DSM-5* does indeed include a number of clear and potentially significant shifts toward a dimensional classification. The introduction to the manual explicitly acknowledges the failure of the categorical model: “The once plausible goal of identifying homogeneous populations for treatment and research resulted in narrow diagnostic categories that did not capture clinical reality, symptom heterogeneity within disorders, and significant sharing of symptoms across multiple disorders” (APA, 2013, p. 12). Many of the changes that were made to the nomenclature reflected a preference for a more dimensional conceptualization (e.g., the autism spectrum disorder, the conceptualization of a schizophrenia spectrum, the level of severity for substance use disorder, and the reference within the introduction of the manual to the broad dimensions of internalizing and externalizing dysfunction that cut across existing categories). Included in Section III of *DSM-5* for emerging models and measures is a five-domain, 25-trait dimensional model of maladaptive personality functioning (Krueger et al., 2011) that is aligned conceptually and empirically with the FFM dimensional model of general personality structure (APA, 2013; De Fruyt et al., 2013; Gore & Widiger, 2013; Thomas et al., 2013). This model is presented as an alternative to the traditional diagnostic categories “to address numerous shortcomings of the current approach” (APA, 2013, p. 761) and its presence within the diagnostic manual will help to stimulate further research as well as increase the familiarity and interest of clinicians with respect to this alternative approach (Widiger, 2013).

Nevertheless, it is also acknowledged that “*DSM-5* remains a categorical classification of separate disorders” (APA, 2013, p. xii). The shifts that did occur were frankly tentative, if not timid. “What is being proposed for *DSM-V* is not to substitute dimensional scales for categorical diagnoses, but to add a dimensional option to the usual categorical diagnoses for *DSM-V*” (Kraemer, 2008, p. 9). None of the mental disorders, including even the personality disorders, converted to a dimensional classification. There was a shift toward the conceptualization of some disorders as existing along a spectrum (e.g., autism and schizophrenia), and substance use disorder collapsed the problematic distinction between abuse and dependence into one disorder that includes four levels of severity. However, with respect to the latter, there remains no acknowledgement of the continuum into normal substance usage. There will continue to be a reliance on the NOS category to identify subthreshold conditions (the threshold for a substance use diagnosis was, in fact, raised from one criterion to two).

DSM-III is often said to have provided a significant paradigm shift in how psychopathology is diagnosed (Kendell & Jablensky, 2003; Klerman, 1983; Regier, 2008). Much

of the credit for the innovative nature and success of *DSM-III* is due to the foresight, resolve, and perhaps even courage of its Chair, Dr. Robert Spitzer. The primary authors of *DSM-5* fully recognized the failure of the categorical model of classification (Kupfer et al., 2002; Regier, 2008; Regier et al., 2010). They had the empirical support and the opportunity to lead the field of psychiatry to a comparably bold new future in diagnosis and classification, but no true paradigm shift in the classification of psychopathology has occurred.

There was never an intention to actually shift the diagnostic manual into a dimensional system. As acknowledged by Helzer, Kraemer, and Krueger (2006), "our proposal [for *DSM-5*] not only preserves categorical definitions but also does not alter the process by which these definitions would be developed. Those charged with developing criteria for specific mental disorders would operate just as their predecessors have" (p. 1675). In other words, work groups, for the most part, continued to develop diagnostic criteria to describe prototypic cases in a manner that would maximize homogeneity and differential diagnosis (Robins & Guze, 1970; Spitzer et al., 1980), thereby continuing to fail to adequately describe typical cases and again leaving many patients to receive the diagnosis of NOS. Dimensional proposals for *DSM-5* were only to develop "supplementary dimensional approaches to the categorical definitions that would also relate back to the categorical definitions" (Helzer et al., 2008b, p. 116). It was the intention for these dimensions to serve only as ancillary descriptions that lacked any official representation within a patient's medical record. They have no official alphanumeric code and may then not even be communicated to any public health care agency.

Kraemer, Noda, and O'Hara (2004) argued that in psychiatry "a categorical diagnosis is necessary" (p. 21). "Clinicians who must decide whether to treat or not treat a patient, to hospitalize or not, to treat a patient with a drug or with psychotherapy, or what type, must inevitably use a categorical approach to diagnosis" (Kraemer et al., 2004, p. 12). This is a not uncommon perception, but it is not an accurate characterization of actual clinical practice (Mullins-Sweatt & Widiger, 2009). In many common clinical situations, the decision is not, in fact, black and white. Clinicians and social agencies make decisions with respect to a frequency of therapy sessions, an extent of insurance coverage, a degree of medication dosage, and even degrees of hospitalization (e.g., day hospital, partial hospitalization, residential program, or traditional hospitalization).

It is evident that these different clinical decisions are not well informed by a single, uniform diagnostic threshold. The current diagnostic thresholds are not set at a point that is optimal for any one particular social or clinical decision, and the single diagnostic threshold is used to inform a wide variety of different decisions. A dimensional system has the flexibility to provide different thresholds for different social and clinical decisions and would then be considerably more useful for clinicians and more credible for social agencies than the current system. A flexible (dimensional) classification would be preferable to governmental, social, and professional agencies because it would provide a more reliable, valid, explicitly defined, and tailored means for making each respective social and clinical concern. It is for this reason that the authors of *DSM-5* included the supplementary dimensional scales to facilitate particular clinical decisions (e.g., Shear, Bjelland, Beesdo, Gloster, & Wittchen, 2008).

The NIMH has largely rejected *DSM-5*, indicating that they are no longer interested in funding studies that rely upon this nomenclature. As expressed by the director of the NIMH, "it is critical to realize that we cannot succeed if we use DSM categories" (Insel, 2013). NIMH has developed its own nomenclature, referred to as the Research Domain Criteria (RdoC; Insel, 2009; Sanislow et al., 2010), consisting of five broad areas of research (i.e., negative valence systems, positive valence systems, cognitive systems,

systems for social processes, and arousal/modulatory systems) that cut across the existing *DSM-5* diagnoses. The RDoC nomenclature is described as dimensional, because it is concerned with underlying mechanisms that are best described in terms of levels or degrees of functioning rather than distinct categories (Cuthbert, 2014). “Each level of analysis needs to be understood across a dimension of function” (Insel, 2013). However, the primary distinction with *DSM-5* is that the RDoC system emphasizes a neurobiological model of psychopathology. “Mental disorders are biological disorders involving brain circuits that implicate specific domains of cognition, emotion, or behavior” (Insel, 2013). NIMH is primarily critical of the *DSM-5* for deriving its diagnoses on the basis of overt symptoms (Craddock & Owen, 2010; Kapur, Phillips, & Insel, 2012). “Unlike our definitions of ischemic heart disease, lymphoma, or AIDS, the *DSM* diagnoses are based on a consensus about clusters of clinical symptoms, not any objective laboratory measure” (Insel, 2013). However, it is also unclear if a biological reductionism will be any more successful (Kendler, 2005).

Most (if not all) mental disorders appear to be the result of a complex interaction of an array of interacting biological vulnerabilities and dispositions with a number of significant environmental, psychosocial events that often exert their effects over a progressively developing period of time (Rutter, 2003). The most complete and compelling explanation will not likely be achieved through a biological reductionism because much will be lost by a failure to appreciate that explanation and understanding at the level of behavior and cognition remains fundamentally valid, and necessary (Kendler, 2005). The symptoms and pathologies of mental disorders appear to be highly responsive to a wide variety of neurobiological, interpersonal, cognitive, and other mediating and moderating variables that help to develop, shape, and form a particular individual’s psychopathology profile. This complex etiological history and individual psychopathology profile are unlikely to be well described by single diagnostic categories that attempt to make distinctions at nonexistent discrete joints along the continuous distributions (Widiger & Samuel, 2005). The publication of *DSM-III* was said to have provided a significant, major advance in the diagnosis and classification of psychopathology (Klerman, 1983). The APA diagnostic nomenclature, however, is now beset by substantial criticism (Frances, 2013; Greenberg, 2013; Widiger & Crego, 2015), with NIMH openly rejecting it (Insel, 2013). Perhaps it is time for a paradigm shift.

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