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Classification of Depressive Disorders in DSM-V: Proposal for a Two-Dimension System

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Abstract

The number of categories and specifiers for mood disorders has increased with each successive edition of the *Diagnostic and Statistical Manual for Mental Disorders (DSM)*. Many of these categories and specifiers can be viewed as an effort to map the various permutations of severity and chronicity that characterize the depressive disorders. However, this has resulted in a system that is unnecessarily complex and unwieldy, and created problems with artificial distinctions between categories and artifactual comorbidity, and at the same time obscures what may be more fundamental distinctions. A potentially useful and more parsimonious approach to capturing much of the heterogeneity of depressive disorders is to classify the depressive disorders along two dimensions, one reflecting severity and the other chronicity. Considerations in the development of these dimensions are discussed, and a set of examples is presented. Although further research and discussion are needed to determine the optimal form of these dimensions, the next edition of the DSM should consider replacing many of the existing categories and specifiers for depressive disorders with the simpler approach of classifying depressive disorders using the two dimensions of severity and chronicity.

During the past few decades, there have been at least two major changes in how the mood disorders are conceptualized. First, there has been growing evidence for the clinical significance of subthreshold depressive symptoms and conditions (Pincus, Wakefield, & McQueen, 1999) and for the view that subthreshold depression falls on a continuum with full threshold depression (Flett, Vredenberg, & Krames, 1997; Solomon, Haaga, & Arnow, 2001). The continuum view has been supported by research indicating that subthreshold depression is associated with significant psychosocial impairment that is comparable to many full threshold depressions (Gotlib & Lewinsohn, 1995), findings that subthreshold depressions have a strong familial/genetic relation with full threshold depressions (Kendler & Gardner, 1998; Lewinsohn, Klein, Durbin, Seeley, & Rohde, 2003), and longitudinal studies indicating that subthreshold depression is associated with an increased risk of escalation to major depressive disorder (MDD) (Fergusson, Horwood, Ridder, & Beautrais, 2005; Lewinsohn, Solomon, Seeley, & Zeiss, 2000). Although subthreshold depression is not formally recognized in the nomenclature, the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV; American Psychiatric Association, 1994) introduced a number of “subthreshold” diagnoses such as minor depressive disorder (Spitzer, Endicott, & Robins, 1978), recurrent brief depression (Angst, Merikangas,

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Scheidegger, & Wicki, 1990), and mixed anxiety-depression (Zinbarg et al., 1994) in the Appendix as conditions requiring further study.

Second, there has been a shift from conceptualizing mood disorders as episodic/remitting conditions to viewing them as chronic/intermittent conditions (Judd, 1997). The increasing recognition of the chronicity of depression has been reflected in the successive editions of the DSM. The *Diagnostic and Statistical Manual of Mental Disorders*, 3rd edition (DSM-III; American Psychiatric Association, 1980) included one form of chronic depression: dysthymic disorder (DD). The *Diagnostic and Statistical Manual of Mental Disorders*, 3rd edition revised (DSM-III-R; American Psychiatric Association, 1987) introduced specifiers for chronic depressive episode[1] and recurrent episodes, and included "partial remission" as an option in an episode severity/psychotic/remission specifier. Finally, the DSM-IV added the longitudinal course specifier "with full interepisode recovery" versus "without full interepisode recovery" for recurrent mood disorders, and illustrated the various permutations between recurrent mood disorders with and without full interepisode recovery and with and without antecedent DD (American Psychiatric Association, 1994).

The proliferation of main text and appendix categories and specifiers in the mood disorders section appears to be, in large part, an attempt to capture the various combinations of severity and chronicity that are evident in depressive disorders.[2] Indeed, much of the current classification for depressive disorders can be summarized in a 2 × 2 severity by chronicity table (see Table 1). Although the growth of categories and specifiers has improved the coverage and descriptive validity of the mood disorders section, it has also increased the complexity of the classification system and may have created several additional problems. First, the DSM has established what increasingly appear to be artificial distinctions between continuous or unitary phenomena (e.g., MDD and minor depressive disorder, and as will be argued below, a variety of forms of chronic depression). Second, it has also created artifactual forms of comorbidity. For example, when MDD episodes are superimposed on an antecedent DD (also referred to as double depression), both diagnoses are assigned, suggesting that the patient has two distinct disorders. In reality, however, chronic depressions typically exhibit a waxing and waning course; double depression is simply a phase in the course of a single chronic depressive disorder (Keller & Lavori, 1984;Klein, Schwartz, Rose, & Leader, 2000). Finally, as I argue below, by splitting chronic/intermittent forms of depression into a variety of categories and specifiers, the DSM obscures the more fundamental distinction between episodic and chronic depression. As a result of these problems, the increasing complexity of the mood disorders section has not been compensated for by a corresponding increase in its construct validity and clinical utility.

In this paper, I argue that the current classification system for depressive disorders can be simplified and made more systematic by classifying depression on two dimensions: one for severity and one for chronicity (see Angst & Merikangas [2001] and Dunner, [2005] for related discussions). Although my discussion is limited to non-bipolar depressive disorders, with some modifications, this proposal may also be applicable to bipolar disorder. In addition, I do not discuss other mood disorder subtypes and specifiers such as psychotic, melancholic, atypical, seasonal, and early/late onset, although they could be easily included within the system proposed here. Finally, I do not address the relation between depressive and non-mood disorders, particularly the view that depression is part of a broader category

[1]The chronic specifier applies to major depressive episodes, rather than major depressive disorder. This is because it is possible for someone to have multiple depressive episodes, some of which are chronic and some of which are not. However, as discussed below, the episodic-chronic distinction appears to be relatively stable across episodes (Klein, Shankman, & Rose, 2006). Hence, for ease of communication, I will refer to chronic major depression as a type of depressive disorder, rather than as a type of depressive episode.

[2]This parallels the growth in the number of categories in the manual as a whole (Widiger & Clark, 2000), although the reasons for the increases vary depending on the specific disorder.

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of distress or emotional disorders, as has been advocated in recent hierarchical models of psychopathology (e.g., Watson, 2005). However, there is no reason why the two-dimension system proposed here could not be incorporated within such a hierarchical taxonomy.

In the remainder of this paper, I present the rationale for a two-dimension classification system for depressive disorders and offer an example of what it might look like. Before doing so, however, I briefly consider the debate over categorical versus dimensional classification systems.

Categorical versus Dimensional Systems

There is growing interest in replacing the existing categorical diagnostic system with a dimensional system (e.g., Widiger & Samuels, 2005). Categorical and dimensional systems each have potential advantages. For example, categorical systems are often easier for communication and clinical decision-making, whereas dimensional systems often provide greater reliability and statistical power. However, the question at the heart of this debate is whether the latent structure of MDD and other mood disorders is discrete or continuous. There have been a number of taxometric studies of MDD in recent years; some have reported evidence for discreteness (e.g., Solomon, Ruscio, Seeley, & Lewinsohn, 2006), whereas others have not (e.g., Hankin, Fraley, & Lahey, 2005). There has also been some evidence for discrete subtypes (e.g., melancholia) within MDD (e.g., Beach & Amir, 2003), although this has also been disputed (Ruscio, Ruscio, & Keane, 2004). In addition to concerns about sampling, assessment methods, and taxometric procedures (Ruscio et al., 2004; Solomon et al., 2006), there are a number of further complexities that may make resolution of this issue difficult (Klein & Riso, 1993). For example, MDD may be discrete with respect to some diagnostic boundaries but not others. In addition, discreteness is itself a non-discrete construct. For example, there may be “fuzzy”, or intermediate, forms between a taxon and its complement, and there could be continuous variation within a taxon (Haslam, 2002). In the absence of knowledge of the nature of the latent structure of the depressive disorders, the most pragmatic approach at the current time may be to adopt a system that classifies disorders dimensionally but also provides thresholds to create categories to facilitate communication and clinical decision-making (Kessler, 2002).

Severity

Discussions of dimensional models of depression have almost always focused exclusively on variations in symptom severity (Andrews et al., 2007; Flett et al., 1997; Solomon et al., 2001). Although I argue that severity alone is insufficient for an adequate classification of depression, it is an important part of a classification system because it has significant implications for treatment, prognosis, and etiology. Thus, antidepressant medication and a number of approaches to psychotherapy are efficacious in treating moderate and severe forms of depression (American Psychiatric Association, 2000; DeRubeis et al., 2005; Dimidjian et al., 2006). However, the differences in response between antidepressant medications and placebo have been much smaller in mild MDD (Elkins et al., 1989), DD without a superimposed MDD episode (Thase et al., 1996), and minor depressive disorder (Ackermann & Williams, 2002). As a result, recent practice guidelines include watchful waiting and exercise, and supportive clinical care with psychoeducation as appropriate options for mild and subthreshold forms of depression, and some recommend against the use of medication due to the poor risk-benefit ratio (National Institute for Clinical Excellence, 2004; Royal Australian and New Zealand College of Psychiatrists Clinical Practice Guidelines Team for Depression, 2004).

Depression severity is also associated with treatment efficacy within the moderate-to-severe range.. Aggregating across a series of clinical trials with outpatients with MDD, Khan,

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Brodhead, Kolts, and Brown (2005) reported that there was a significant linear relationship between baseline symptom severity and the magnitude of the difference between antidepressant medications and placebo, with effect sizes of .51 for mild-moderate depression, .54 for moderate depression, .77 for moderate-severe depression, and 1.09 for severe depression.

Severity of depression is also an important predictor of relapse/recurrence (Kessing, 2004; Kendler & Gardner, 1998; McGrath et al., 2006; Melartin et al., 2004) and attempted and completed suicide (e.g., Kessing, 2004; Oquendo et al., 2004). For example, in a six-year follow-up study, Kessing (2004) found that patients with a moderate depressive episode and patients with a severe depressive episode both had a significantly higher risk of relapse than patients with a mild depressive episode (relative risks = 1.2 and 1.7, respectively). The groups also differed significantly on risk for suicide, with relative risks of 1.5 and 2.1 for the moderate and severe groups, respectively, compared to the mild group. Similarly, in a large community sample, Kendler and Gardner (1998) found a linear relationship between number of DSM-III-R symptom criteria and the risk of experiencing a of future MDD episode.

Finally, symptom severity also appears to be associated with etiologically-relevant variables. For example, in their community sample of twins, Kendler and Garner (1998) reported that the number of depressive symptoms reported by one twin was significantly linearly related to genetic risk, as indexed by the co-twin's lifetime risk of MDD. In addition, symptom severity is associated with greater evidence of biological abnormalities, such as hypercortosolemia and shortened rapid eye movement latencies (Hubain, Van Veeren, Staner, Mendlewicz, & Linkowski, 1996), serotonergic dysregulation (Cleare, Murray, & O'Keane, 1998), and decreased regional cerebral glucose metabolism in the prefrontal cortex and paralimbic/amygdala regions (Kimbrell et al., 2002).

The DSM-IV recognizes the clinical utility of distinguishing levels of severity by including a dimensional severity specifier that is based on a combination of number of symptoms, degree of functional impairment, and presence of psychotic symptoms.[3] However, the episode severity specifier is limited to individuals who have met criteria for MDD either currently or in the past, and does not apply to those with DD, minor depressive disorder, or subthreshold symptoms but no prior history of full threshold disorder.

A potential objection to classifying the full range of depressive conditions on a single severity dimension is that the symptoms included in the DSM-IV criteria for MDD and minor depressive disorder differ from those in the criteria for DD. MDD and minor depression require either depressed mood or loss of interest or pleasure, whereas DD requires depressed mood and does not allow decreased interest or pleasure to substitute. In addition, the criteria for MDD and minor depressive disorder, but not DD, include psychomotor disturbance, guilt or worthlessness, and suicidal ideation or behavior in their lists of associated symptoms. In contrast, low self-esteem and hopelessness are included as associated symptoms of DD, but not MDD and minor depression. It is not clear why the symptoms for minor depressive disorder are identical to those for MDD but differ from the symptoms for DD. However, setting that question aside, the DSM-IV criteria suggest that there are qualitative differences in the symptom presentations of MDD and DD. Indeed, a

[3]There is disagreement regarding whether MDD with psychotic features should be regarded as being quantitatively more severe than severe MDD without psychotic features, or whether it represents a qualitatively distinct subtype (Klein, Shankman, & McFarland, 2006). However, if psychotic MDD is viewed as being quantitatively more severe, it strengthens the argument for the clinical and etiological signficance of the severity dimension. For example, psychotic depression does not respond to antidepressant medications alone, and should be treated with the combination of an antidepressant and an antipsychotic medication or with electroconvulsive therapy (American Psychiatric Association, 2000). Psychotic depression also differs from non-psychotic depression on a number of aspects of course, familial aggregation, and neurobiological dysregulation (Flores & Schatzberg, 2006; Klein et al., 2006).

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number of investigators have argued that somatic/vegetative symptoms are more characteristic of MDD, whereas cognitive, affective/motivational, and interpersonal symptoms are more characteristic of DD (Gwirtsman, Blehar, McCullough, Kocsis, & Prien, 1997). The DSM-IV represented this perspective by including an alternative set of associated symptoms for DD in the appendix, which expanded the list of cognitive, affective/motivational, and interpersonal symptoms and eliminated all somatic/vegetative symptoms (American Psychiatric Association, 1994).

However, the available evidence does not support the view that there are qualitative differences in symptomatology between MDD and DD. A number of studies have compared the rates of specific symptoms in MDD and DD and found that persons with MDD had similar or higher rates of all symptoms than patients with DD (Klein, Kocsis, McCullough, Holzer III, Hirschfeld, & Keller, 1996). To the extent that there were differences, they were not limited to somatic/vegetative symptoms. Moreover, there were no specific depressive symptoms that were significantly more common in DD than in MDD. In addition, in the DSM-IV Mood Disorders Field Trial, the correlation between the rank orders of frequencies of specific depressive symptoms in MDD and DD was .74 (Klein et al., 1996). Finally, in a systematic examination of the symptom criteria for MDD, Zimmerman and colleagues recently reported that cognitive and affective/motivational symptoms generally had greater sensitivity and specificity for the diagnosis of MDD than somatic/vegetative symptoms (McGlinchey, Zimmerman, Young, & Chelminski, 2006: Zimmerman, McGlinchey, Young, & Chelminski, 2006), and argued that the clinical utility of the MDD criteria would be increased by eliminating somatic/vegetative symptoms (Zimmerman, Chelminiski, McGlinchey, & Young, 2006). Taken together, these findings indicate that to the extent that there are any differences in symptomatology between MDD and DD, they appear to be quantitative, rather than qualitative (Klein et al., 1996), hence there is no reason why both conditions cannot be included on the same severity dimension.

Chronicity

As noted above, discussion of dimensional models of depression have focused almost exclusively on severity, and paid little attention to the role of course (Angst & Merikangas, 2001; Shankman & Klein, 2002). This is surprising given the consensus that depressive disorders should be viewed as chronic/intermittent conditions (Judd, 1997) and the proliferation of DSM categories and specifiers describing course features. In this section, I summarize evidence indicating that the distinction between chronic and non-chronic (or episodic) depressive disorders is both clinically and etiologically significant, and should be a component of any classification system for depressive disorders. At the same time, however, I will argue that there are few meaningful differences between the various forms of chronic depression currently recognized in the DSM-IV, and that the nosology can be simplified by collapsing the many forms of chronic depression into a single construct or dimension.

Despite the lack of qualitative differences in symptomatology, a number of studies have demonstrated that persons with DD (with and without superimposed MDD episodes) differ from those with non-chronic MDD on many clinically and etiologically relevant variables. The literature comparing chronic and non-chronic forms of MDD is less systematic and consistent; however the differences tend to parallel those between DD and non-chronic MDD. Thus, DD is associated with greater Axis I (Holm-Denoma, Berlim, Fleck, & Joiner, 2006) and Axis II (Garyfallos et al., 1999; Pepper, Klei, Anderson, Riso, Ouimette, & Lizardi, 1995) comorbidity; higher levels of neuroticism, introversion (Hirschfeld, 1990; Klein, Taylor, Dickstein, & Harding, 1988), and depressotypic cognitions (Klein, Taylor et al., 1988; Riso et al., 2003); greater suicidality (Holm-Denoma, et al., 2006; Klein, Taylor et al., 1988; Klein et al., 2000) and functional impairment (Evans, Cloitre, Kocsis, & Gniwesch, 1995; Hays, Wells, Sherbourne, Rogers, & Spritzer, 1995); more early adversity

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and maladaptive parenting (Lizardi et al., 1995); and higher rates of mood disorders in relatives (Klein, Clark, Dansky, & Margolis, 1988; Klein et al., 1995; Klein, Shankman, Lewinsohn, Rohde, & Seeley, 2004) than non-chronic MDD. Similarly, persons with chronic MDD have an earlier onset of MDD (Garvey, Tollefson, & Tuason, 1986: Klein et al., 2004); greater comorbidity with anxiety disorders (Gilmer et al., 2005; Klein et al., 2004), neuroticism (Hirschfeld, Klerman, Andreasen, Clayton, & Keller, 1986), suicidality (Garvey et al., 1986; Gilmer et al., 2005), and functional impairment (Gilmer et al., 2005); and a greater familial loading of mood disorders (Klein et al., 2004; Scott, 1988; Vocisano, Klein, Keefe, Dienst, & Kincaid, 1996) than individuals with non-chronic MDD. Finally, when broad groups of chronic and non-chronic depressions are compared, chronic depression is associated with an earlier age of onset of depression, a higher rate of attempted suicide, and greater comorbidity with panic and substance use disorders (Mondimore et al., 2006).

The distinction between chronic and non-chronic depressions also appears to have important treatment implications, although there are few direct comparisons between these groups (see Thase et al., 1994 for an exception). Patients with chronic depression tend to have lower response rates to pharmacological and psychosocial treatments than patients with non-chronic depression (Hamilton & Dobson, 2002; Kocsis, 2003; Thase et al., 1994). Thus, it may be necessary to modify traditional psychotherapies for depression in order to treat chronic depression more effectively (McCullough, 2003; Riso & Newman, 2003). In addition, chronic depressions appear to require a longer duration of pharmacotherapy in order to achieve remission (Koran et al., 2001). Finally, chronic depressions may be more likely to benefit from combined pharmacotherapy and psychotherapy than non-chronic depressions (Keller et al., 2000).

The two strongest sources of support for the distinction between chronic and non-chronic depression come from evidence for the specificity of familial aggregation of chronic depression and the stability of the chronic/non-chronic distinction over time. Thus, rates of chronic depression are significantly higher in the relatives of probands with chronic depressions than the relatives of probands with non-chronic depressions (Klein et al., 1995; Mondimore et al., 2006) and the relatives of healthy controls (Klein et al., 1995; Klein et al., 2004). In contrast, the rate of chronic depression in relatives of probands with non-chronic depression does not differ from relatives of healthy controls (Klein et al., 1995; Klein et al., 2004). In addition, the distinction between chronic and non-chronic depression is relatively stable over time. In a 10-year follow-up study, Klein, Shankman, and Rose (2006) found that patients with DD and double depression were 14 times more likely to exhibit a chronic course than patients with non-chronic MDD. Conversely, patients with non-chronic MDD were 12 times more likely to exhibit a non-chronic depressive course than patients with DD and double depression.[4]

In contrast to the significant differences between chronic and non-chronic depressive disorders, there appear to be few meaningful differences between the various forms of chronic depression. Thus, DD and double depression do not differ on comorbidity, personality, coping style, childhood adversity, familial psychopathology, and 10-year course

[4]The relatively high stability of the chronic/non-chronic distinction contrasts with the much lower stability of specific depressive diagnoses (e.g., Angst, Sellaro, & Merikangas, 2000; Chen, Eaton, Gallo, Nestadt,, & Crum, 2000). However, this is consistent with the argument below that the DSM has created a number of artificial distinctions within chronic depression, and that this obscures the more fundamental distinction between chronic and non-chronic depressions. For example, in most studies of the stability of specific depressive diagnoses, participants with DD who develop a superimposed MDD episode at follow-up are considered to have changed diagnoses despite the fact that superimposed MDD episodes are part of the natural history of DD. Similarly, participants with a non-chronic MDD at time 1 who are in remission at follow-up are typically classified as diagnostically unstable despite the fact that periods of remission are inherent in an episodic course.

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and outcome (Lizardi et al., 1995; Klein et al., 1995; Klein et al., 2006; McCullough et al., 1990; Pepper et al., 1995). Similarly, there are few differences between patients with DD and patients with chronic MDD (Casano & Savino, 1993; Yang & Dunner, 2001). Finally, two large studies found virtually no differences between patients with double depression, chronic MDD, and chronic MDD episodes superimposed on DD on comorbidity, psychosocial functioning, depressive cognitions, coping style, early adversity, family history, and response to pharmacotherapy and psychotherapy (McCullough et al., 2000, 2003). Moreover, one of these studies also included a fourth group of patients with recurrent MDD with incomplete recovery between episodes and a total continuous duration of depression of at least two years. This group also failed to differ from patients with double depression, chronic MDD, and chronic MDD episodes superimposed on DD on clinical and psychosocial variables, family history, and treatment response (McCullough et al., 2003).

The lack of distinctiveness between the various forms of chronic depression is supported by within-subject longitudinal data. Almost all patients with DD experience exacerbations that meet criteria for MDD episodes, suggesting that DD and double depression are different phases of the same condition (Keller & Lavori, 1984; Klein et al., 2000). Moreover, in a 10-year follow-up study, Klein et al. (2006) found that although patients with DD and double depression often experienced recurrences of chronic depression, the form of chronic depression varied. Of the patients who experienced a recurrence of chronic depression, 28% met criteria for DD, 24% met criteria for a chronic MDD episode, and 48% had a period of chronic depression that did not meet criteria for either category (e.g., MDD with partial remission and a continuous duration of over two years).

In summary, it appears that chronic and non-chronic depressions differ in a variety of clinically, and possibly etiologically, meaningful respects. The chronic versus non-chronic distinction is conceptually orthogonal to severity, as both chronic and non-chronic depressions can be mild (DD and minor depressive disorder) or moderate-severe (chronic and non-chronic MDD). Classification systems based solely on severity ignore this important source of heterogeneity. At the same time, there is little evidence that the distinctions between the different forms of chronic depression in DSM-IV are stable, clinically useful, or etiologically meaningful. This suggests that in the interest of parsimony, the various forms of chronic depression can be collapsed into a single construct or dimension (Dunner, 2005; Klein et al., 2004; McCullough et al., 2003).

In considering a chronicity dimension for classifying depressive disorders, at least two other issues should be addressed: the definition of chronicity and the place of episodic recurrent depressions. Chronicity is typically defined by a duration of two or more years. Although this definition is not unreasonable, it is based on convention rather than data. Thus, it would be important to consider other definitions (e.g., 1 year, 5 years). Alternatively, it may be better to define chronicity in continuous, rather than categorical, terms (e.g., number of years depressed more than half the time or proportion of time depressed during the past two or five years). In addition, the DSM focuses on the chronicity of the current or most recent episode. However, a longer-term perspective may have greater validity. For example, Mondimore et al. (in press) compared a definition of chronicity based on course since the first onset of depression to the DSM-IV criteria for chronic MDD and DD and found that chronicity since onset produced the strongest association with risk of chronic depression in relatives.

A second question concerns the relation between recurrent depressions with full remissions between episodes and chronic depressions. Specifically, should episodic recurrent depressions be viewed as another form of chronic depression, as occupying an intermediate position on a continuum between non-chronic single episode depressions and chronic

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depression, or as distinct from both non-chronic single episode and chronic depressions? Unfortunately, few studies have attempted to tease apart the effects of recurrence and chronicity. There is a large literature demonstrating that persons with recurrent MDD have higher rates of MDD in first-degree relatives (Sullivan, Neale, & Kendler, 2000) and a greater risk of relapse/recurrence than persons with single episode MDD (e.g., Mueller et al., 1999). However, persons with double depression have many more episodes than those with non-chronic depression (Keller & Shapiro, 1982; Klein et al., 2000), and residual symptoms/partial recovery is probably the strongest predictor of relapse/recurrence (e.g., Judd et al., 2000; Kennedy & Paykel, 2004). Thus, it is likely that a substantial proportion of the recurrent patients in these studies had a chronic course. In the literature on chronic depression reviewed above, non-chronic single and recurrent episode cases were combined, and this combined non-chronic group consistently differed from individuals with chronic depression. This suggests that non-chronic recurrent depressions may fall somewhere between non-chronic single episode depressions and chronic depressions. However, given the paucity of data on this issue, the best approach may be to adopt a flexible classification system that allows non-chronic single episode depressions, non-chronic recurrent depressions, and chronic depressions to be treated both as a continuum and as separate categories that can be combined in various ways (i.e., non-chronic recurrent depression with either of the other two groups).

I am aware of two examples of scales for classifying the course/chronicity of depression along a single dimension. Mondimore et al. (2006) used a three-point scale to assess lifetime course since the onset of depression in a sample with recurrent and/or chronic depression: remitting (good remissions, substantially longer than episodes); frequent/brief (< 3 weeks) episodes without prolonged remissions; and double or chronic depression (frequent mood symptoms most or all of the time). They reported excellent interrater reliability in applying this scale. As indicated earlier, when Mondimore et al. (2006, in press) used the third point to define chronicity, they found that chronic depression aggregated within families, and that this effect was stronger using their scale than DSM-IV criteria for chronic MDD and DD.

Stewart, McGrath, and Quitkin (2002) developed a six-point scale to rate course since the first significant period of depression: single episode ≤ two years; recurrent episodes ≤ two years; chronic with multiple episodes of well-being lasting at least two months each; chronic with one or two episodes of well-being lasting at least two months each; chronic intermittent (i.e., mostly depressed but with multiple days or weeks well, never months); and chronic persistent (i.e., virtually always depressed, and never two months well). There was good agreement between ratings based on diagnostic interviews and independent ratings based on chart review. When the fifth and sixth points were used to define chronicity, it was related to response to antidepressant medication (Stewart et al., 2002) and neurocognitive measures of hemispheric asymmetry (Stewart, Bruder, McGrath, & Quitkin, 2003).

Two-Dimension Classification of Depressive Disorders

A potentially useful and more parsimonious approach to capturing some of the heterogeneity of depressive disorders is to classify depression on two axes: one reflecting severity and the other chronicity. The simplest version of this system is the two by two table presented in Table 1, where severity is rated as mild or moderate-severe and chronicity is rated as non-chronic or chronic. This system may be useful in many circumstances. However, it ignores potentially important information. As discussed above, finer gradations within these two severity categories, such as between moderate and severe depression, are associated with meaningful differences in treatment response, risk for recurrence and suicide, and genetic loading. The argument for a dimensional approach to chronicity is not quite as strong. However, as discussed above, the evidence for differences between patients with a single

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episode and those with recurrent episodes suggests the utility of at least distinguishing between one and multiple episodes within the non-chronic category.

In this section, I propose an example of a two dimension system for classifying depressive disorders. The severity dimension is presented in Table 2. It is a modified version of the DSM episode severity specifier: (1) no or almost no depressive symptoms; (2) subthreshold; (3) mild; (4) moderate; and (5) severe. However, it can be applied to individuals who do not have MDD as the second rating point includes subthreshold depressions such as mDD, DD, and MDD in partial remission. If a finer degree of resolution is desired, additional rating points could easily be added. Given the lack of consensus as to whether psychotic and non-psychotic depression differs quantitatively or qualitatively, psychotic features are not included as a severity indicator. However, they could easily be added as a sixth point, just as they are included as the most severe rating point in the DSM episode severity specifier.

It is important to require some minimum duration of symptoms for ratings of subthreshold or higher on this scale. Following the current criteria for MDD and minor depressive disorder, a reasonable minimum might be “depressed mood or loss of interest or pleasure for most of the day more days than not for at least two weeks”. However, a one week minimum could be considered, as could an exception for briefer but frequent periods of depression similar to the Appendix category of recurrent brief depressive disorder. It also appears reasonable to use the current list of MDD symptoms as the basis for the symptom count and cutoffs. However, this could be refined on the basis of recent (e.g., Zimmerman, McGlinchey, et al., 2006) and future research. In particular, it might be helpful to use item-response theory to identify a maximally informative set of depressive symptoms that cover the full severity continuum. It would also be desirable to have some exclusion criteria or specifiers indicating whether ratings of two or higher are attributable to a general medical condition, psychoactive substance, or more severe and pervasive mental disorder (e.g., schizophrenia). As discussed earlier, the severity dimension would typically be coded for the current or most recent episode, however, it could also be coded for the worst lifetime episode when desired (e.g., in epidemiological and family/genetic studies). Finally, it should be noted that additional specifiers such as melancholia, psychotic, atypical, seasonal, and early/late onset, could be used in cases where the severity rating was greater than two or three.

The chronicity dimension is presented in Table 3. It is a four-point scale: (1) never depressed; (2) single episode of ≤ 2 years duration; (3) recurrent episodes of ≤ 2 years duration with extended periods of full remission between episodes; and (4) chronic (> 2 years of depressive symptoms without extended periods of full remission). Based on Mondimore et al.’s (in press) findings, it seems reasonable to rate course since first onset, although it could be limited to more recent time frames. As noted above, further work is needed to determine the best definition of chronicity (e.g., two versus one or five years) and whether recurrent non-chronic depression is best conceptualized as falling between single episode non-chronic and chronic depression. In addition, research is needed to explore the value of adding additional rating points, such as those included by Mondimore et al. (2006) and Stewart et al. (2002). In particular, recurrent depressions can vary with respect to the relative duration of the periods of depression and remission, and chronic depressions are occasionally punctuated by extended periods of remission. Hence, it may be reasonable to distinguish between recurrent episodes of ≤ 2 years duration with relatively long periods of interepisode recovery, recurrent episodes of ≤ 2 years duration with relatively brief periods of interepisode recovery, chronic (> 2 years) episodes with periods of full remission, and chronic (> 2 years) depressions with no more than brief periods of remission.

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Conclusion

The DSM-V provides an important opportunity to rethink how we conceptualize and classify mental disorders. A two-dimension system with severity and chronicity axes would simplify the classification of depressive disorders. It could incorporate virtually all the information in the MDD category, the MDD episode severity, recurrent, and chronic specifiers, the DD category, the longitudinal course specifier, and the appendix category of minor depressive disorder into just two codes or ratings (one on each axis). In addition, it has a number of further advantages, including recognizing subthreshold depressive conditions, which are currently relegated to the Appendix; eliminating the conceptual problem that supposedly "major" disorders such as MDD are often milder and less impairing than some ostensibly "minor" disorders such as DD (Klein et al., 2000); eliminating or substantially reducing the problems of artificial distinctions between categories and artifactual comorbidity; encouraging clinicians to pay attention to longitudinal course, much as the introduction of Axis II in DSM-III forced clinicians to consider personality disorders; and emphasizing the distinction between episodic and chronic depressions, which is currently obscured by the balkanization of chronic depression into numerous categories and specifiers.

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Table 1

DSM-IV Depressive Disorders as a Function of Severity and Chronicity

Severity	Non-Chronic	Chronic
Moderate-Severe	Non-Chronic Major Depressive Disorder	Chronic Major Depressive Disorder
Mild	Minor Depressive Disorder	Dysthymic Disorder

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Table 2

Example of Severity Dimension

1	No or almost no symptoms
2	Subthreshold (2–4 symptoms[1])
3	Mild (5–6 symptoms plus mild impairment)
4	Moderate (symptoms or functional impairment between mild and severe)
5	Severe (8–9 symptoms and severe impairment)

[1] Of the nine symptoms in DSM-IV MDD episode criterion B: depressed mood; loss of interest or pleasure; low energy or fatigue; sleep disturbance; appetite disturbance; psychomotor disturbance; decreased concentration or difficulty making decisions; inappropriate guilt or worthlessness; thoughts of death or suicidal ideation or behavior.

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Table 3

Example of Chronicity Dimension

1	No significant subthreshold or full threshold period of depression
2	Single episode of ≤ 2 years duration
3	Recurrent episodes of ≤ 2 years duration with extended periods of full remission between episodes
4	Chronic (> 2 years of depressive symptoms without extended periods of full remission)