Clarifying Criteria for Cognitive Signs and Symptoms for Eating Disorders in DSM-V

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ABSTRACT

Objective: This article reviews literature relevant to challenges in clinical ascertainment of cognitively-based diagnostic criteria of anorexia nervosa (AN) and bulimia nervosa (BN) to examine whether revision might enhance their clinical utility.

Method: We performed a systematic literature search to identify publications relevant to clinical evaluation of cognitive symptoms of AN and BN.

Results: The literature supports several reasons that individuals with an eating disorder may not endorse cognitive symptoms, despite their presence. These include limited insight, minimization, or denial, as well as intentional concealment related to perceived stigma, social desirability, or investment in maintaining behavioral symptoms. We also identified reasons that the word "refusal" in AN criterion A may render its application problematic.

Discussion: We conclude that specific guidance for ascertainment of cognitive signs for AN and BN in the absence of patient disclosure or endorsement, longitudinal evaluation, and/or collateral data may improve clinical utility of these diagnostic criteria. © 2009 American Psychiatric Association.

Keywords: diagnostic criteria; anorexia nervosa; bulimia nervosa; clinical inference; refusal

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Introduction

Several studies suggest that an unacceptably large percentage of eating disorders may go unrecognized in primary care or other specialty settings.[1–5] These data, in combination with findings from the National Comorbidity Study-Replication (NCS-R) indicating that a majority of individuals with bulimia nervosa (BN) and binge eating disorder (BED) in the U.S. do not receive specific treatment for their illness, warrant serious concern.[6] Although the large percentage of individuals who do not receive care for their eating disorder may, in part, reflect poor access to health care resources and unfavorable help-seeking patterns, suboptimal clinician attunement to and recognition of eating disorder symptoms clearly contribute as well.[7,8]

Very few studies address the implementation of diagnostic criteria for eating disorders in clinical settings. Of these, one demonstrated that clinicians frequently disregarded an objectively low weight criterion in formulating referral decisions as part of a national screening program for eating disorders. Although the clinicians in this study were instructed to follow an unambiguous algorithm for referral, study findings suggested that their clinical judgment—based on unknown other factors—may have overridden the salience of an objectively low weight in making a referral.[8] In addition, an experimental study found that when clinical information about the severity of anorexia nervosa (AN) symptoms is presented earlier (e.g., first in a case note), clinician-participants assigned a lower global functioning score than when the information was presented later.[9] These two studies suggest that the manner and order in which symptoms are reported may influence clinical judgment in evaluating AN. Two other experimental studies, however, failed to identify similar anchoring effects, meaning that

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Supporting Information Table S1–Table S3 may be found in the online version of this article. [Selected text in this article and its supplemental materials (Tables S1 and S2) are reprinted with permission from the Diagnostic and Statistical Manual of Mental Disorders, Text Revision, Fourth Edition, (Copyright 2000). American Psychiatric Association.]

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clinicians were equally likely to recognize and rate the severity of AN irrespective of the order of symptom presentation.[10,11]

The following literature review addresses key considerations for clarifying the phrasing and accompanying text for the DSM-IV AN criteria A-C and BN criterion D (Supporting Information Table S1).[12] The strongest reason to examine the clarity of phrasing for these diagnostic criteria is to enhance their valid and reliable application in clinical settings.

Concerns about the phrasing of cognitive-based criteria for AN and BN include (1) ambiguity regarding whether (and how) a clinician may infer the presence of these criteria (e.g. "refusal to maintain normal body weight," "intense fear of gaining weight or becoming fat," "undue influence of body weight or shape on self-evaluation"; AN criteria A, B, and C and BN criterion D, respectively) if a patient does not endorse them; and (2) absence of guidance for interpretation of dimensional cognitive constructs in relation to social norms that vary across time and social contexts and that may be difficult to ascertain (AN Criteria B and C; BN Criterion D).

Inference Versus Explicit Endorsement of Eating Disorder Criteria

A lack of endorsement of these cognitive criteria may occur for the following reasons: (1) the individual does not recognize or acknowledge symptoms due to limited insight, minimization, or denial of the symptoms; and (2) the individual recognizes symptoms but either does not disclose them or conceals them. This denial, non-disclosure, and/or concealment may relate to perceived stigma, concerns about social desirability, or investment in maintaining the symptoms.

In addition to general considerations for evaluating cognitively based criteria for AN and BN, several concerns relating to the term "refusal" have been identified. First, "refusal" connotes behavior that is willful[13] and even obstreperous. In doing so, this word's usage presupposes capacity and agency to formulate an intention (not maintaining weight), choose a course of action (to undermine weight gain), and to express this intention (endorse a refusal). A universal assumption of this capacity and motivation among individuals with AN is unfounded. Moreover, the frame of "refusal" potentially lays the groundwork for an embattled relationship between clinician and patient, which is undesirable. Next, in the absence of guidelines for describing AN in partial remission, this criterion is awkward to apply once a patient has engaged in treatment, and is thus no longer "refusing" to maintain a normal weight, but is rather actively working to maintain or gain weight.

Culture-Relevant Considerations for Interpretation of Dimensional Cognitive Constructs that Relate to Social Norms

Ascertainment of the clinical meaning or severity of excessive concerns with weight or shape—e.g. "undue influence of body weight or shape on self-evaluation" (AN criterion C)—requires reference to local social norms. However, these social norms can themselves vary across demographic strata within a population (e.g., by gender) and are also fluid across time. Moreover, these social norms comprise multiple relevant dimensions. Social norms governing weight and shape concerns reference body shape esthetic ideals and reflect culturally embedded core values and notions about self-agency that influence the perceived feasibility and social desirability of managing weight. For example, social support for the pursuit of thinness is anchored in a conceptual matrix relating identity, self, and body, particular to Western and modern cultural contexts, that allows that individuals can exert control over their shape or weight. Thus, cognitive signs intrinsic to AN or BN (e.g., an intention to reshape the body, expression of self-volition, and self-evaluation in relation to body shape or weight) emerge within a particular social—not natural or physiological—frame.[14–16]

A well-established literature in anthropology and sociology of the body and selfhood[17–25] suggests avenues for cross-cultural variation in capacity and inclination for self-evaluation with respect to bodily attributes as well as in eating disorder symptom phenomena and severity.[26–28] For example, a study of bulimic disorders in India related their low prevalence to the local prominence and cultural support for a sociocentric self-definition that the investigators suggest may discourage these behaviors.[29] Likewise, ethnographic data on selfhood and body experience in Fiji support that the relative emphasis on social—rather than personal—attributes constituting identity may diminish personal investment in, and accountability for, body shape or weight.[30] Whereas these cultural differences may attenuate risk for an eating disorder,[29,30] they may also introduce alternative social pressures that motivate behavioral symptoms with distinctive rationales.[31–34]

In addition, idioms of distress vary substantially across cultural contexts and frequently reflect the legitimacy or desirability of direct expression of distress or complaint.[35] Social convention, stigmatization of mental distress, or constraints in health care resources may encourage somatic rather than

psychological elaboration of symptoms. Moreover, emergence of specific symptoms, such as dietary restraint or purging, may be constrained by personal autonomy or privacy.[36]

Therefore, social context is relevant not only to clinician interpretation of signs and symptoms of disordered eating, but to therapeutic interventions which must address both their rationale and local salience for impairment and distress. While not uniquely relevant to the diagnosis of eating disorders, variation in social and cultural context renders the assessment of their subjective and dimensional cognitive attributes particularly challenging given the heterogeneity of social norms for body ideals. A comprehensive review of social norms and their relation to eating disorders is beyond the scope of this article, and unfortunately, this literature is better suited to raising questions about the cultural relativity of diagnostic criteria than to resolving them. Interpretation of cognitive signs is, therefore, particularly challenging when considering their application in populations characterized by traditions culturally distinct from Western traditions, and also when considering particular micro-cultures that characterize demographic strata within Western populations (e.g., males or athletes). Familiarity with a patient's reference for social norms governing body image and weight management and dietary behaviors is critical to clinical interpretation of investment in, or disturbance of, body image.

Method

To identify literature relevant to clinical interpretation of AN and BN cognitive criteria, we searched for papers in Medline (1950 to 2008) and PsychInfo (1967 to 2008) that included in title, abstract, or text the terms: either anorexia, bulimia, or eating disorder (including stem words) and at least one term from the following list: insight, investment, disclosure, conceal, deny or denial, minimization, cognitive bias, refusal, stigma, self-evaluation, clinical judgment, or inference (again, including stem words when appropriate) (See Supporting Information Table S2). The scope of this review excluded a specific search for studies reporting gender and cultural data relevant to ascertainment of cognitive symptoms of AN and BN.

Results

The literature identifies and supports several potential challenges to evaluation of cognitively based symptoms of AN and BN. It also supports specific semantic concerns with the term, "refusal," in AN criterion A.

Clinical Ascertainment of "Refusal" and Other Subjective Symptoms is Potentially Difficult when they are Unstated or Unendorsed

The requirement that patient "refusal" must be intrinsic to her low weight to meet AN criterion A presents a clinical challenge. Refusal—especially if it is not acknowledged or is denied—is difficult to assess, and in practice, it may frequently be inferred on the basis of persistent low weight (see Hebebrand et al., 2004).[13] Generally, the term refusal is understood to be intentional opposition to a request or requirement. For example, *Merriam-Webster's Collegiate Dictionary* defines "refuse" as "to express oneself as unwilling to accept" or, alternatively, "to show or express unwillingness to do or comply with"[55] Although specific data are unavailable to understand how clinician factors and clinical scenarios influence inference of criterion A, it is potentially difficult to apply in an initial diagnostic encounter if refusal is either inapparent or disavowed. Even if an unwillingness to restore weight is suspected based on lack of progress in weight gain observed longitudinally or on collateral sources, such as parents, teachers, or coaches, clinicians lack guidelines for inferring "refusal" when patients either do not endorse or actively disavow it.

A similar theoretical challenge applies to the other cognitively based symptom criteria of AN (and BN). Because patient-clinician negotiation of the presence and meaning of symptoms is conventionally a bilateral process with embedded assumptions about the patient's responsibilities and motivation for becoming well (e.g., see both Parsons and Kleinman[56,57]), a diagnostic approach that overrides a patient's report with clinician inference is unlikely to emerge without sufficient data to justify it. Moreover, the stakes of overlooking an alternative medical or psychological—and potentially life-threatening and/or treatable—etiology of weight loss are unacceptably high. However, if AN or BN is not recognized, the therapeutic response will either be misdirected or delayed. Although current DSM-IV text guidance for clinical assessment specifies ways in which clinical assessment can be augmented with observable behaviors (e.g., excessive weighing and body checking) to ascertain body image disturbance (AN criterion C), opportunities to collect these clinical data are not always available. Thus the burden does often fall on clinicians to infer intent or motivation of the patient.

Patient Capacity and/or Willingness to Endorse Symptoms are Multi-Factorial

The term "refusal" implies willful and deliberate action, which presupposes patients have the insight into or willingness to formulate, acknowledge, and then verbalize their symptoms. In fact, if it were directly assessed, individuals with AN may not endorse the "refusal" criterion—or related cognitive criteria B or C—for a range of reasons (for a review of relevant literature on denial in AN, see Vandereycken, 2006a,b; Vitousek et al., 1991).[46,48,49] Some patients may recognize their symptoms yet choose either not to disclose or to conceal them due to an investment in maintaining their symptoms,[38,40,41] perceived stigma attached to AN,[51–54] or their concerns about social desirability. Alternatively, other individuals may not recognize or acknowledge the symptoms because of limited insight, developmental capacity, or cognitive impairment related to their nutritional compromise.

Investment in Symptoms. Individuals with AN may conceal symptoms due to a belief that their symptoms are useful to them.[39,42] Schmidt and Treasure (2006) suggest that individuals with AN perceive benefits of the illness related to emotional avoidance, increased sense of safety, and secondary gains of communicating distress and engaging care, for example, which lead them to disregard the adverse impact of the illness.[42] Similarly, Cockell et al. (2002) also posit that individuals may derive a sense of personal accomplishment and experiential avoidance from AN.[39] Acknowledgment of symptoms, and motivation to address them in treatment, may be a process that can be achieved through psychotherapy that emphasizes readiness to change and motivation enhancement.[37] Thus, some individuals with AN may not endorse cognitive eating disorder symptoms—including efforts to remain low weight, such as dietary restraint—to treatment providers, due to the perception that these symptoms are beneficial. These beliefs may lead to conscious or unconscious concealment of symptoms.[49]

Investment in symptoms and/or lack of insight can lead to concealment, non-disclosure, minimization, and/or denial. Although only a handful of studies address prevalence of non-disclosure and/or denial among individuals with eating disorders[43,44,45,47,50,58] these support the notion that a sizeable minority to a majority of patients manifest some degree of denial about their illness. Indeed, the possibility of denial of serious consequences of behaviors is already intrinsic to AN criterion C.[12] Whereas a majority of individuals may eventually admit to their symptoms, a substantial number choose not to disclose symptoms even when queried by a health care provider.[43] Moreover, a majority of individuals with eating disorders report having actively concealed their behaviors. A number of scholarly reviews and numerous clinical reports detail superficial compliance or strategies patients may use to subvert or avoid detection of their symptoms.[44,46,48,49,59]

Developmental Considerations. Interpretation of the cognitive criteria for eating disorders may be particularly problematic in child and young adolescent patients due to age-appropriate immature cognitive development. For example, abstract reasoning and attentional set-shifting both develop from childhood throughout adolescence, and response inhibition increases from childhood through early adolescence.[60,61] An undeveloped capacity for abstract reasoning may consequently result in limited insight about motivation for restrictive eating or purging among younger patients. Children and young adolescents may even report a wish to be healthy rather than an explicit desire to lose weight.[62] Impaired attention and impulsivity may also be relevant as children may behave without premeditation (e.g., they may restrict without the intention of weight loss). In a recent paper, addressing how diagnostic criteria may require modification for children, Bravender et al. (2007) write, "Diagnostic criteria that reference cognitive processes in AN are not sensitive to the timing of neurocognitive maturation in children and adolescents" (p. S118).[63]

Supporting this claim, the limited research on eating disorders in children and adolescents suggests that a sizeable minority of young eating disorder patients deny the cognitive criteria for AN.[47,64,65] For these younger patients, the differential diagnosis between eating disorders and feeding disorders is already difficult,[66] and denial of cognitive criteria poses an additional diagnostic challenge. Increased attention to these issues is warranted. In particular, longitudinal research that considers the predictive validity of endorsement of these cognitive criteria in youth would be informative.

Social Desirability. The perceived stigma of acknowledging AN symptoms may discourage candid and full disclosures in the clinical setting and may further undermine help-seeking for patients. Individuals with AN, who are often perfectionistic and motivated to fit in and be well regarded (for review see Lilenfeld et al., 2005[67]; Wonderlich et al., 2005[68]), may even superficially express desire to gain weight and concern about the ramifications of

low weight, motivated by social desirability. Individuals with AN who, notwithstanding severe psychological impairment or nutritional compromise, can be relatively high-functioning in educational or occupational domains as well as articulate, are often able to present themselves as especially credible and convincing about reasons for difficulty gaining weight and their desire to overcome these. This phenomenon has been described as "over-compliance" by Vitousek et al. (1991), who also cite Bruch's early description of patients with AN as 'pseudo-agreement' that can be misinterpreted by clinicians.[46]

The Term "Refusal" in AN Criterion A is Potentially Inaccurate, Misleading, and Pejorative

We also identified several specific concerns about unintentional and potentially misleading connotations of the term "refusal" to characterize failure to maintain a healthy weight in individuals with AN. Whereas there are limited empirical data that evaluate the impact of this specific phrasing on diagnostic utility and validity, the literature on motivation, stigma and social desirability, denial, and developmental processes provide a context as well as a strong rationale for these concerns.

Biology. Hebebrand et al. (2004) have argued that difficulties maintaining a normal weight may relate to biological—rather than strictly psychological—traits of individuals with AN. For example, they hypothesize that deficient leptin levels contribute to the "paradoxical restlessness or drive for activity" observed in acutely ill patients with AN (p. 830). In other words, they argue some patients are incapable of maintaining an appropriate weight, but are not necessarily *refusing* to do so.[13] Investigators have also hypothesized that neurobiological changes may contribute to symptoms of denial similar to anosognosia.[49,69] Further research in these areas is needed to elucidate biological underpinnings of the observed symptoms.

Social Stigma. By implying agency and willfulness, the phrasing in AN criterion A may promote stigmatization of AN. In particular, the connotation of the word "refusal" as behavior that is oppositional may perpetuate the notion that a patient is in control of her symptoms. Research has highlighted the stigmatization of AN both by the public, who appear likely to blame the patient for her illness and to believe she could "pull herself together" if she so desired,[52–54] and by medical professionals.[51,70] Thus, the term "refusal" may have unintended and misleading consequences in framing this symptom as a "choice" of action under voluntary control.

Additional Semantic and Logical Problems with the Application of the Term "Refusal" for AN Criterion A. Even setting aside the general difficulties in ascertaining and evaluating cognitive symptoms for AN and BN, the phrasing relating to "refusal" for AN criterion A presents several other difficulties as follows: First, the criterion as phrased specifies that it is the refusal to maintain an appropriate body weight (alone) rather than refusal in addition to the inappropriately low weight that is essential to the diagnosis. "Refusing to be an appropriate weight" and "being a low weight" describe two discrete symptoms, and therefore, an individual could easily "refuse" to maintain an appropriate weight—notwithstanding a normal weight—and satisfy this criterion. However, both low weight and the cognitive frame that supports it are intrinsic to AN. This problem could be addressed by including low weight as a distinct criterion for AN in addition to cognitive symptoms and behaviors that support it. Hebebrand et al. have proposed revised AN criteria that overlap with this suggestion.[13]

Next, the term "refusal" connotes behavior that is not only volitional but also oppositional. When a patient is engaged in nutritional rehabilitation, she is (often) no longer able to express or exercise her "refusal," however uncomfortable it may make her feel. Indeed, she may be actively engaged in gaining weight—but still underweight. Because adherence to nutritional rehabilitation treatment is mutually exclusive with refusal, this diagnostic criterion is potentially problematic to apply during the recovery process.

Outcome

A small body of literature has examined the clinical significance of unendorsed cognitive symptoms in patients with AN and found no differences in outcome between individuals who denied versus admitted eating disorder symptoms.[47,71] Couturier and Lock (2006) reported that in a family therapy trial, adolescents who denied symptoms of dietary restraint (e.g., restrictive eating, limiting intake in order to control weight) had equally good outcomes compared to adolescents who endorsed these symptoms; notably, individuals were diagnosed with AN on the basis of clinician judgment, and through collateral parent-report, which affirmed that adolescents were intentionally refusing food or were preoccupied with weight/shape in spite of denial.[47] The authors speculated that family involvement in treatment may have influenced outcomes, as parents took responsibility for treatment participation, even when adolescents' acknowledgment of illness and motivation for

treatment were low. In an adult sample, Pryor et al. similarly found no differences in eating disorder outcome at 1-year follow-up between individuals who denied/minimized their eating disorder symptoms (defined as scoring below the clinical range on all EDI/EDI-2 eating disorder scales) but were judged to have AN on the basis of clinician assessment and collateral reports, and those with AN who endorsed symptoms (on the EDI/EDI-2).[71]

Whereas it is not possible to draw conclusions about the clinical significance of denial on the basis of this preliminary work, these findings suggest few differences between individuals who deny versus those who acknowledge their symptoms. Moreover, these studies appear to counter the notion that denial of illness indicates entrenchment, amotivation, and potentially less favorable outcome. As Couturier and Lock (2006) suggest, it is possible that parents' involvement in treatment compensated for the potential impact of adolescents' denial on outcome[47]; but this does not explain the lack of difference in outcome in the adult sample.[71] Importantly, one early study reported that insight into illness is associated with improved treatment outcomes in AN, and that insight can increase as a function of treatment.[72] This study, in concert with the motivation literature, suggests that to the extent that denial keeps patients from seeking or engaging in treatment, it needs to be viewed as an important clinical variable, and warrants additional study.[37]

Notably, there is a substantial literature that addresses a phenomenologic variant of AN in which criterion B ("Intense fear of gaining weight or becoming fat, even though underweight"[12]) is absent.[34,73] Whether individuals who otherwise appear to meet criteria for AN but who lack endorsement of fat phobia because of an alternate rationale for food refusal differ from those who lack insight or deliberately conceal weight concerns is unclear and requires further research. In other words, patients who do not endorse AN criterion B may comprise a heterogeneous group with a distinctive clinical course.

Discussion

In summary, the application of cognitive criteria for AN and BN (AN criteria A–C and BN criterion D) presents a clinical challenge insofar as their associated symptoms can be highly subjective and easily concealed. Limitations in patient capacity to recognize and report symptoms may also undermine their transparency in clinical settings. Though in the absence of formal study data evaluating clinical ascertainment of these criteria, these concerns are largely theoretical, there are compelling reasons to clarify guidelines for their implementation. In particular, the intention underlying, or rationale for, behaviors that impact weight may be difficult for an individual with AN to recognize or endorse. Body experience and weight concerns may be similarly difficult to formulate and express, in part because they are highly subjective, and in part because they are relative to social norms. Moreover, perceived benefits of low weight or dietary restriction may motivate individuals to conceal their behaviors or intentions, even if they do recognize them. Therefore, application of diagnostic criteria based solely on patient endorsement of cognitive symptoms could potentially impede the prompt and accurate diagnosis of an eating disorder. Interpretation of clinical signs and collateral data contradicted by disavowal or superficial patient compliance may be especially problematic for non-specialty clinicians who are unfamiliar with patterns of denial and nondisclosure among patients with an eating disorder.

Whether an individual with an eating disorder does not recognize a symptom in herself, or whether she intentionally conceals it, the denial of efforts to lose weight, fear of weight gain, or body image disturbance may go unchallenged by the clinician. Although the current text accompanying DSM-IV diagnostic criteria for AN encourages clinicians to seek collateral data because patients may not provide an accurate history of their illness or account of their symptoms, these additional sources of data are not always accessible. This is particularly true for adult patients and individuals who have not been closely monitored by other clinicians for conditions related to nutritional concerns and behaviors. Moreover, even when outside individuals are accessible for corroborating history, they may not be privy to essential information about the patient's behavior or subjective state of mind. They, too, may lack insight or an informed perspective. Especially when there are no additional sources about the clinical history provided by family, educators, other clinicians, or friends who can supplement data provided by the patient, a lack of symptom endorsement may be misinterpreted as an absence of symptoms and result in the missed opportunity to recognize a diagnosis of AN. In contrast to several text references that qualify the potential for denial and inaccurate symptom report in AN, the DSM-IV text says little about this in relation to BN. We could find only one text reference (p. 590)[12] to frequent attempts to conceal symp-

toms in patients with BN, but nothing specifically relevant to non-disclosure in the clinical encounter or the advisability of seeking collateral information.

Finally, we conclude that the phrasing for AN criterion A is both potentially misleading as well as difficult to apply in clinical settings. As outlined earlier, "refusal" connotes an active process that can be observed by the clinician (and others) or endorsed by the patient. Because there is no structured interview assessment specific to this refusal,[13] it is unlikely that it is applied consistently or reliably across clinical settings. The term "refusal" also connotes behavior that is volitional. This not only introduces a pejorative and unnecessarily adversarial frame for the clinical encounter that may contribute to stigmatization of AN, but may also distract the clinical gaze from physiologic contributions to low weight.[13] Moreover, "refusal" is a construct that is awkward to apply after treatment has begun. AN criterion A also conflates low weight with the cognitive frame that supports or values it, whereas it may be desirable to distinguish these.

We conclude by proposing that text addressing diagnostic features of AN and BN be augmented to provide guidelines for ascertainment of cognitive based signs and symptoms (AN criteria A-C and BN criterion D) in the absence of patient endorsement of them. In addition, we propose replacing and/or augmenting terms relating to "refusal" relevant to AN criterion A. Four options for rephrasing Criterion A are included in Supporting Information Table S3. Each of these options preserves the essential feature of AN, that some cognitive frame—even if unacknowledged by the patient—supports an inappropriately low weight. Options 1 and 2 propose a substitution for the problematic term, "refusal," with a term such as, "resistance." The proposed rephrasing avoids a potentially misleading and pejorative characterization of AN that can potentially undermine diagnosis, treatment alliance, and contribute to stigmatization of the disorder.

The term "resistance" has the advantage that it can more readily be inferred in the context of collateral information such as clinical history, data from the family, and inadequate progress toward weight gain in spite of nutritional and medical intervention. This term can also encompass behavior that is either willful or out of the patient's awareness. However, even the active "resistance" to weight gain can also be challenged and disavowed by the patient. Moreover, Hebebrand et al. (2004) considered, and then dismissed, this term as attributing "too active" a process to the patient.[13] Substitution of a term such as "difficulty" maintaining weight is another possibility. Still, this term may be too general in encompassing physiologic reasons for low weight and may therefore undermine diagnostic specificity (thereby leading to inappropriate or excessive diagnosis) of AN.

Options 2 and 3 propose separating low weight and cognitive symptoms into distinct criteria, distinguishing the *presence* of low weight from the *reasons* it is maintained. Finally, option 4 maintains the current criteria for AN while adding a variant for individuals who do not endorse cognitive symptoms (e.g., as outlined in Walsh and Sysko's "Broad categories" proposal Appendix II), "Anorexia nervosa without evidence of distortions related to body shape and weight."[74] For this latter option, we recommend specifying that the cognitive symptoms are inferred rather than absent.

Next, we propose text revisions to advise clinicians of the limited capacity for many individuals with an eating disorder for formulating and accurately reporting weight and shape related concerns as well as potential motivation to avoid disclosure or evade clinical detection. Limited insight and capacity to formulate the motivation for symptoms may be developmental, culturally based, or related to the distinctive characteristics of AN. Although the current text encourages utilization of collateral data, it gives insufficient guidance for application of the criteria in the absence of patient endorsement of the cognitive symptoms of AN or BN.

Further, we recommend clarification that clinician-based assessment should augment—and can even supersede—self-reported patient data. Clinician inference should be informed by sources of collateral data when possible, relevant, and appropriate: for example, history from family, friends, educators, and clinicians; physical signs consistent with purging behaviors; clinical history of unexplained weight changes; and unexplained lack of weight gain despite nutritional support. Whenever possible, ascertainment should also utilize data drawn from observable behaviors such as excessive weighing or body checking and any behavioral pattern that subverts weight gain or suggests fear of weight gain or body weight/shape overvaluation. Text should clarify that longitudinal observational data may also be necessary to confirm the diagnosis.

As Walsh and Sysko point out (2009),[74] a major drawback with such an approach is excessive reliance on clinical judgment to evaluate presence of a diagnostic criterion, which could result in overdiagnosis of AN. Notably, and in contrast to this proposed option, the omission of inferred cognitions from the diagnostic criteria for AN has been proposed by Hebebrand et al. (2004).[13] However, we believe this could result in misplaced confidence in patient report that may be inaccurate or incom-

plete for the reasons discussed above. This could, in turn, result in clinicians not recognizing cases of AN if patients lack the insight, will, or capacity to endorse these symptoms.

Finally, we recommend augmentation of text to emphasize the fluid and culture-specific nature of social norms anchoring weight and body shape concerns. Clinicians can be directed to general guidelines for cultural formulation within the DSM as a starting point for assessing patient signs and symptoms in relation to diverse local norms. We also advocate including specific examples of this variation across age, gender, and culture.

In conclusion, we have summarized reasons to augment text guidance for ascertainment of cognitive symptoms of AN and BN. We have also examined specific reasons to eliminate the word "refusal" from AN criterion A. This proposal draws from empirical evidence that patients with AN and BN potentially lack capacity or motivation to report symptoms accurately for a variety of reasons. Field testing of these proposed changes would optimally evaluate the comparative specificity and sensitivity of the rephrased criteria as applied in primary and specialty health care settings. Evaluation of outcomes for patients meeting full AN or BN criteria, versus those who do not endorse cognitive criteria, would establish whether these variants comprise distinctive subtypes or possibly a heterogeneous group of patients. Finally, expert consensus on how the proposed rephrasing and text revisions can enhance the reliable and valid application of diagnostic criteria for AN and BN in clinical settings will be essential.

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References

1. Whitehouse AM, Cooper PJ, Vize CV, Hill C, Vogel L. Prevalence of eating disorders in three Cambridge general practices: Hidden and conspicuous morbidity. Br J Gen Pract 1992;42:57–60.
2. King MB. Eating disorders in a general practice population: Prevalence, characteristics, and follow-up at 12 to 18 months. Psychol Med Monogr Suppl 1989;14:1–34.
3. Stewart DE, Robinson E, Goldbloom DS, Wright C. Infertility and eating disorders. Am J Obstet Gynecol 1990;163:1196–1199.
4. Emmanuel AV, Stern J, Treasure J, Forbes A, Kamm MA. Anorexia nervosa in a gastrointestinal practice. Eur J Gastroenterol Hepatol 2004;16:1135–1142.
5. Andersen AE. Unmasking a current medical pretender: Anorexia nervosa in gastrointestinal practice. Eur J Gastroenterol Hepatol 2004;16:1123–1125.
6. Hudson JI, Hiripi E, Pope HG Jr, Kessler RC. The prevalence and correlates of eating disorders in the national comorbidity survey replication. Biol Psychiatry 2007;61:348–358.
7. Becker AE, Franko D, Speck A, Herzog DB. Ethnicity and differential access to care for eating disorder symptoms. Int J Eat Disord 2003;33:205–212.
8. Becker AE, Thomas JJ, Franko DL, Herzog DB. Interpretation and use of weight information in the evaluation of eating disorders: Counselor response to weight information in a national eating disorders educational and screening program. Int J Eat Disord 2005;37:38–43.
9. Friedlander ML, Stockman SJ. Anchoring and publicity effects in clinical judgment. J Clin Psychol 1983;39:637–643
10. Friedlander ML, Phillips SD. Preventing anchoring effects in clinical judgment. J Consult Clin Psychol 1984;52:366–371
11. Pain MD, Sharpley CF. Varying the order in which positive and negative information is presented: Effects on counselors' judgments of clients' mental health. J Counsel Psychol 1989;36:3–7
12. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders, 4th ed. Text Revision. Arlington, VA: American Psychiatric Association, 2000.
13. Hebebrand J, Casper R, Treasure J, Schweiger U. The need to revise the diagnostic criteria for anorexia nervosa. J Neural Transm 2004;111:827–840.
14. Shilling C. The Body and Social Theory. London: Sage Publications, 1993.
15. Turner BS. Regulating Bodies: Essays in Medical Sociology. London: Routledge, 1992.
16. Martin E. Bipolar Expeditions: Mania and Depression in American Culture. Princeton, NJ: Princeton University Press, 2007.
17. Fisher S. Body Consciousness. New York: Jason Aronson, 1974.
18. Illich I. Body history. Lancet 1986;6:1325–1327.
19. Zegans L. The embodied self: Personal integration in health and illness. Adv Nurs sci 1987;4:29–45.
20. Lieber MD. Lamarckian definitions of identity on Kapingamarangi and Pohnpei. In: Linnekin J, Poyer L, editors. Cultural Identity and Ethnicity in the Pacific. Honolulu: University of Hawaii Press, 1990. pp. 71–101.
21. Strathern M. The Gender of the Gift: Problems with Women and Problems with Society in Melanesia. Berkeley: University of California Press, 1988.
22. Foster RJ. Nurture and force-feeding: Mortuary feasting and the construction of collective individuals in a New Ireland society. Am Ethnol 1990;17:431–448.
23. Kirkpatrick J, White GM. Exploring ethnopsychologies. In: Kirkpatrick J, White GM, editors. Person, Self, and Experience. Berkeley: University of California Press, 1985. pp. 3–32.
24. Shore B. Sala'Ilua: A Samoan Mystery. New York: Columbia University Press, 1982.
25. Lutz C. Ethnopsychology compared to what? Explaining behavior and consciousness among the Ifaluk. In: White G, Kirkpatrick J, eds. Person, Self, and Experience. Berkeley: University of California Press, 1985. pp. 35–79.
26. Pike KM, Mizushima H. The clinical presentation of Japanese women with anorexia nervosa and bulimia nervosa:A study of the Eating Disorders Inventory-2. Int J Eat Disord 2005;37:26–31.
27. Lee S, Chiu HFK, Chen C-N. Anorexia nervosa in Hong Kong: Why not more in Chinese? Br J Psychol 1989;154:683–688.
28. Al-Adawi S, Dorvlo ASS, Burke DT, Al-Bahlani S, Martin RG, Al-Ismaily S. Presence and severity of anorexia and bulimia among male and female Omani and non-Omani adolescents. J Am Acad Child Adolesc Psychiatry 2002;41:1124–11230.
29. Bhugra D, Bhui K, Gupta KR. Bulimic disorders and sociocentric values in North India. Soc Psychiatry Psychiatr Epidemiol 2000; 35:86–93.

30. Becker AE. Body, Self, and Society. The View from Fiji. Philadelphia: University of Pennsylvania Press, 1995.
31. Littlewood R. Psychopathology and personal agency: Modernity, culture change and eating disorders in South Asian societies. Br J Med Psychol 1995;68:45–63.
32. Becker AE. Television, disordered eating, and young women in Fiji: Negotiating body image and identity during rapid social change. Cult Med Psychiatry 2004;28:533–559.
33. Anderson-Fye EP. A coca-cola shape: Cultural change, body image, and eating disorders in San Andres, Belize. Cult Med Psychiatry 2004;28:561–595.
34. Becker AE, Thomas JJ, Pike K. Should non-fat-phobic anorexia nervosa be included in DSM-V? Int J Eat Disord 2009 (in press).
35. Kirmayer LJ, Young A. Culture and somatisation: Clinical, epidemiological and ethnographic perspectives. Psychosom Med 1998;60:420–430.
36. Keel PK, Klump KL. Are eating disorders culture-bound syndromes? Implications for conceptualizing their etiology? Psychol Bull 2003;129:747–769.
37. Vitousek K, Watson S, Wilson GT. Enhancing motivation for change in treatment-resistant eating disorders. Clin Psychol Rev 1998;18:391–420.
38. Serpell L, Treasure J, Teasdale J, Sullivan V. Anorexia nervosa: Friend or foe? Int J Eat Disord 1999;25:177–186.
39. Cockell SJ, Geller J, Linden W. Measuring shifts from precontemplation to contemplation in anorexia nervosa: The development of a decisional balance scale. Eur Eat Disord Rev 2002;10: 359–375.
40. Geller J, Drab-Hudson DL, Whisenhunt BL, Srikameswaran S. Readiness to change dietary restriction predicts outcome in the eating disorders. Eat Disord 2004;12:209–224.
41. Serpell L, Teasdale JD, Troop NA, Treasure J. The development of the P-CAN, a measure to operationalize the pros and cons of anorexia nervosa. Int J Eat Disord 2004;36:416–433.
42. Schmidt U, Treasure J. Anorexia nervosa: Valued and visible. A cognitive-interpersonal maintenance model and its implications for research and practice. Br J Clin Psychol 2006;45: 343–366.
43. Becker AE, Thomas JJ, Franko DL, Herzog DB. Disclosure patterns of eating and weight concerns to clinicians, educational professionals, family, and peers. Int J Eat Disord 2005; 38:18–23.
44. Vandereycken W, Humeeck IV. Denial and concealment of eating disorders: A retrospective survey. Eur Eat Disorders Rev 2008;16:109–114.
45. Halmi KA. Anorexia nervosa: Demographic and clinical features in 94 cases. Psychosom Med 1974;36:18–25.
46. Vitousek KB, Daly J, Heiser C. Reconstructing the internal world of the eating-disordered individual: Overcoming denial and distortion in self-report. Int J Eat Disord 1991; 10:647–666.
47. Couturier JL, Lock J. Denial and minimization in adolescents with anorexia nervosa. Int J Eat Disord 2006;39:212–216.
48. Vandereycken W. Denial of illness in anorexia nervosa—A conceptual review. Part 1: diagnostic significance and assessment. Eur Eat Disord Rev 2006a;14:341–351.
49. Vandereycken W. Denial of illness in anorexia nervosa – A conceptual review. Part 2: different forms and meanings. Eur Eat Disord Rev 2006b;14:352–368.
50. Guarda AS, Pinto AM, Coughlin JW, Hussain S, Haug NA, Heinberg LJ. Perceived coercion and change in perceived need for admission in patients hospitalized for eating disorders. Am J Psychol 2007;164:108–114.
51. Fleming J, Szmukler GI Attitudes of medical professionals towards patients with eating disorders. Aust N Z J Psychiatry 1992;26:436–443.
52. Crisp AH. Stigmatization of the discrimination against people with eating disorders including a report of two nationwide surveys. Eur Eat Disord Rev 2005;13:147–152.
53. Mond J, Robertson-Smith G, Vetere A. Stigma and eating disorders: Is there evidence of negative attitudes towards anorexia nervosa among women in the community? J Ment Health 2006; 15:519–532.
54. Stewart MC, Keel PK, Schiavo RS. Stigmatization of anorexia nervosa. Int J Eat Disord 2006;39:320–325.
55. Mish FC, editor. Merriam-Webster's Collegiate Dictionary, 11th Edition. Springfield, MA: Merriam-Webster, Incorporated 2003. p. 1047.
56. Parsons T. The Social System. New York: The Free Press of Glencoe, 1951.
57. Kleinman A. The Illness Narratives: Suffering, Healing & the Human Condition. New York: Basic Books Inc., Publishers, 1988.
58. Wolk SL, Loeb KL, Walsh BT. Assessment of patients with anorexia nervosa: Interview versus self-report. Int J Eat Disord 2005;37:92–99
59. Habermas T. In defense of weight phobia as the central organizing motive in anorexia nervosa: Historical and cultural arguments for a culture-sensitive psychological conception. Int J Eat Disord 1996;19:317–334.
60. Rosso IM, Young AD, Femia LA, Yurgelun-Todd DA. Cognitive and emotional components of frontal lobe functioning in childhood and adolescence. Ann N Y Acad Sci 2004;1021:355–362.
61. Yurgelun-Todd D. Emotional and cognitive changes during adolescence. Curr Opin Neurobiol 2007;17:251–257.
62. Lock J, Le Grange D. Help Your Teenager Beat an Eating Disorder. New York: Guilford Press, 2005.
63. Bravender T, Bryant-Waugh R, Herzog D, Katzman D, Kreipe RD, Lask B, et al. Classification of child and adolescent eating disturbances. Int J Eat Disord 2007;40:S117–S122.
64. Cooper PJ, Watkins B, Bryant-Waugh R, Lask B. The nosological status of early-onset anorexia nervosa. Psychol Med 2002;32: 873–880.
65. Fisher M, Schneider M, Burns J, Symons H, Mandel FS. Differences between adolescents and young adults at presentation to an eating disorders program. J Adolesc Health 2001;28:222–227.
66. Nicholls D, Chater R, Lask B. Children into DSM don't go: A comparison of classification systems for eating disorders in childhood and early adolescence. Int J Eat Disord 2000;28: 317–324.
67. Lilenfeld LR, Wonderlich SA, Riso LP, Crosby RD, Mitchell JE. Eating disorders and personality: A methodological and empirical review. Clin Psychol Rev 2006;26:299–320.
68. Wonderlich SA, Lilenfeld LR, Riso LP, Engel S, Mitchell JE. Personality and anorexia nervosa. Int J Eat Disord 2005;37:S68–S71.
69. Casper RC. Behavioral activation and lack of concern, core symptoms of anorexia nervosa? Int J Eat Disord 1998;24:381–393.
70. Crisafulli MA, Von Holle A, Bulik CM. Attitudes towards anorexia nervosa: The impact of framing on blame and stigma. Int J Eat Disord 2008;41:333–339.
71. Pryor TL, Johnson J, Wiederman MW, Boswell DL. The clinical significance of symptom denial among women with anorexia nervosa: Another disposable myth? Eat Disord J Treat Prev 1995;3:293–303.
72. Greenfeld DG, Anyan WR, Hobart M, Quinlan DM, Plantes M. Insight into illness and outcome in anorexia nervosa. Int J Eat Disord 1991;10:101–109.
73. Lee S, Ho TP, Hsu LKG. Fat phobic and non-fat phobic anorexia nervosa: A comparative study of 70 Chinese patients in Hong Kong. Psychol Med 1993;23:999–1017.
74. Walsh BT. Sysko R. Broad categories for the diagnosis of eating disorders (BCD-ED): An alternative system for classification. Int J Eat Disord 2009 (in press).