

# Use of Extreme Weight Control Behaviors with and without Binge Eating in a Community Sample: Implications for the Classification of Bulimic-Type Eating Disorders

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## ABSTRACT

**Objective and Method:** To inform the classification of bulimic-type eating disorders not meeting formal diagnostic criteria for bulimia nervosa (BN), levels of eating disorder psychopathology and functional impairment associated with subjective and objective bulimic episodes (SBEs and OBEs) and purging and non-purging methods of weight control were examined in a large community-based sample of women ( $n = 5,232$ ).

**Results:** Participants who reported recurrent bulimic episodes had significantly higher levels of eating disorder psychopathology and functional impairment than those who did not and this was the case whether the episodes were objective or subjective. Similarly, participants who reported the use of extreme weight control behaviors had higher levels of eating disorder psychopathology and functional impairment than those who did not, and this was the case whether purging or nonpur-

ing behaviors were employed. The combination of bulimic episodes and extreme weight control behaviors was associated with particularly high levels of eating disorder psychopathology and functional impairment.

**Conclusion:** The combination of bulimic episodes, objective or subjective, and extreme weight control behaviors, purging or nonpurging, is significant in terms of impairment in psychosocial functioning among individuals affected by eating disorders not meeting formal diagnostic criteria for BN. The combination of SBEs and extreme weight control behaviors, in particular, warrants further investigation. © 2006 by Wiley Periodicals, Inc.

**Keywords:** bulimia nervosa; classification; functional impairment

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## Introduction

In a number of recent articles, concern has been expressed at the number of patients with eating disorders who receive the “catchall” diagnosis of eating disorder not otherwise specified (EDNOS) according to the classification scheme for eating

disorders outlined in the most recent edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV).<sup>1–5</sup> Relegation of a large subgroup of individuals with eating disorders to the EDNOS category creates the impression that “true” eating disorders are uncommon and/or that eating disorders not meeting formal diagnostic criteria are associated with minimal impairment.<sup>6</sup> Because funding for mental health services is increasingly dictated by considerations of prevalence and disability,<sup>7</sup> it is important to identify those eating disorders within EDNOS that are most disabling and to consider how classification schemes might be modified to take account of these disorders.

A number of suggestions have been made concerning individuals with anorexia nervosa (AN)-type eating disorders who receive the diagnosis of EDNOS, in particular, removing the amenorrhea criterion,<sup>8,9</sup> and/or redefining the weight loss criterion to reflect a given difference between “set point” weight and actual weight,<sup>3,9</sup> as opposed to a somewhat arbitrary threshold. With respect to indi-

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viduals with bulimia nervosa (BN)-type disorders who fail to meet full DSM-IV criteria, attention has focused on the validity of the requirement that there be a minimum of two binge/purge episodes per week. No important differences between individuals who binge and purge once a week and those who do so two or more times per week have been identified.<sup>10,11</sup> The other well-known variant of BN falling into the EDNOS category is binge eating disorder (BED), which was included as a provisional diagnosis in DSM-IV. BED is characterized by recurrent episodes of binge eating in the absence of extreme weight control behaviors. It is common among women in the community, more common than BN,<sup>12</sup> and evidence supports its clinical significance.<sup>13,14</sup>

Most recently, attention has focused on a third possible variant of BN falling into the EDNOS category, characterized by the use of purging behaviors, namely, self-induced vomiting and/or laxative misuse, in the absence of binge eating.<sup>15,16</sup> Evidence is accumulating that disorders of this kind are common among adolescent and young adult females and associated with levels of eating disorder and comorbid psychopathology comparable to that of BN.<sup>15,16</sup> The term *purging disorder* has been suggested for this latter subgroup,<sup>15</sup> although “compensatory eating disorder” may be a more appropriate term, because eating disorders characterized by purging in the absence of binge eating may be only one subgroup of a much larger group of disorders in which extreme weight control behaviors, both purging and nonpurging, occur in the absence of binge eating.<sup>16-18</sup> It has been suggested that the occurrence, and in particular the number, of extreme weight control behaviors may be a better predictor of impairment in psychosocial functioning than the occurrence or frequency of binge eating.<sup>17</sup> Nonpurging weight control behaviors include extreme dietary restriction, excessive exercise, and diet pills.

One issue pertinent to the classification of bulimic eating disorders that remains unresolved concerns the significance of subjective bulimic episodes (SBEs), namely, episodes of overeating in which a loss of control is experienced, but in which the amount of food consumed is not objectively large.<sup>19</sup> Although the DSM-IV definition of binge eating entails the occurrence of objective bulimic episodes (OBEs),<sup>1,20</sup> findings from both community and clinical samples have led some authors to suggest that the experience of loss of control over eating may be a better index of psychiatric disturbance among individuals affected by BN-type eating disorders than the amount of food consumed.<sup>21-24</sup> Further,

research conducted by the authors<sup>25-27</sup> has shown that individuals who report the use of extreme weight control behaviors in the absence of binge eating frequently also report recurrent SBEs. Hence, it may be the combination of recurrent SBEs and extreme weight control behaviors that is significant in terms of impairment of psychosocial functioning, rather than the occurrence of extreme weight control behaviors per se.

The aim of the current study was to examine levels of eating disorder psychopathology and functional impairment associated with the use of purging and nonpurging methods of weight control in a community-based sample of women reporting recurrent OBEs and/or SBEs. In this way, we informed the classification of bulimic-type eating disorders not meeting formal diagnostic criteria for BN according to DSM-IV.

## Method

### *Participants*

The research was conducted as part of the Health and Well-Being of Female ACT Residents Study, a large-scale epidemiologic study of disability associated with the more commonly occurring (bulimic-type) eating disorders among young adult women in the community.<sup>28</sup> Participants were residents of the Australian Capital Territory (ACT) region (population 323,000), which includes the city of Canberra. The research design was approved by the ACT Human Research Ethics Committee.

Self-report questionnaires were posted to a sample of 10,000 female ACT residents aged 18–42 years, selected at random from the electoral roll and stratified by age in 5-year bands as follows: 18–22 years, 23–27 years, 28–32 years, 33–37 years, and 38–42 years. The questionnaire included measures of eating disorder psychopathology,<sup>29</sup> health-related quality of life (QOL; functional impairment),<sup>30</sup> general psychological distress,<sup>31</sup> and sociodemographic information. Body mass index (BMI; kg/m<sup>2</sup>) was calculated from self-reported height and weight. In pilot work, we found a very high correlation ( $r = .97$ ) between BMI calculated in this way and BMI calculated according to measured height and weight.<sup>32</sup>

Completed questionnaires were received, following reminder letters, from 5,255 individuals, which represented a response rate of 57.1% after incorrectly listed addresses ( $n = 684$ ) and individuals away from home at the time of the survey ( $n = 112$ ) were taken into account. This is a conservative estimate of true response because not all individuals with incorrectly listed addresses will have been identified.<sup>33</sup> Only information concerning age was available for nonrespondents. However, a detailed

analysis of pilot data found no evidence for the existence of nonresponse bias.<sup>34</sup> The sample comprised approximately 10% of the total population of females aged 18–42 in the region and was representative of this population with respect to marital and employment status, education, number of children, and first language.<sup>35</sup>

The ACT is a highly urbanized region and this was reflected in the characteristics of participants. Thus, 85.3% of participants were born in Australia and 91.8% had English as a first language. Approximately 90% had completed  $\geq 12$  years of formal education and close to one half (47.4%) had completed some form of tertiary study, including 12.5% who had completed a postgraduate qualification. Fifty-five percent of participants were married or living as married, 43.8% had  $\geq 1$  child, 62.8% were currently employed either full-time or part-time, 15.6% were full-time students, and 17.5% nominated home duties as their main activity. The mean age of the participants was 30.26 years ( $SD = 7.22$ ). The mean BMI was 24.52 kg/m<sup>2</sup> ( $SD = 5.25$ ).

### Measures

**Eating Disorder Examination-Questionnaire (EDE-Q).** The EDE-Q<sup>29</sup> is a 36-item self-report measure derived from the Eating Disorder Examination interview (EDE).<sup>36</sup> The EDE-Q focuses on the past 28 days and is scored using a 7-point, forced-choice, rating scheme. Scores on each of 4 subscales, namely, the Restraint, Eating Concern, Weight Concern, and Shape Concern subscales, as well as a global score, may be derived from the 22 items addressing attitudinal aspects of eating disorder psychopathology.<sup>28</sup> A high level of agreement between the EDE-Q and EDE subscale scores has been demonstrated in both clinical and general population samples.<sup>32</sup> Frequencies of eating disorder behaviors are assessed in terms of the number of episodes occurring during the past 4 weeks. These items do not contribute to subscale scores. Whereas good agreement between the EDE-Q and EDE assessment of purging behaviors has been reported,<sup>32</sup> agreement between the EDE-Q and EDE assessment of overeating behaviors has sometimes been found to be poor, and it is typically assumed that the self-report measure is inferior.<sup>37</sup> In pilot work, we found good agreement between the EDE-Q and EDE assessment of the occurrence of regular (at least weekly) OBEs ( $\kappa = .53$ ,  $p < .01$ ), whereas agreement with respect to the regular occurrence of SBEs was poor ( $\kappa = .16$ ,  $p = .02$ ).<sup>32</sup>

**Medical Outcomes Study Short-Form Disability Scale (SF-12).** The SF-12<sup>30</sup> is a 12-item measure of health-related QOL derived from the 36-item form.<sup>38</sup> Items of the SF-12 are summarized into 2 weighted scales (the Physical Component Summary scale [PCS] and the Mental Component Summary scale [MCS]), designed to

assess impairment in everyday functioning associated with physical and mental health problems. Each scale is scored to have a mean of 50 and a  $SD$  of 10 (in the U.S. population), with lower scores indicating higher levels of impairment. The SF-12 has robust psychometric properties<sup>30</sup> and its validity in the Australian population has been demonstrated.<sup>39</sup> In this study, the MCS was the primary measure of functional impairment. A score of  $\leq 40$  on the MCS is indicative of moderate impairment, whereas a score of  $\leq 30$  indicates severe impairment.<sup>40</sup> Items of the MCS include the following: “During the past four weeks, have you accomplished less than you would like as a result of any emotional problems, such as feeling depressed or anxious?” and “How much of the time during the past four weeks have you felt downhearted and blue?” Scores on the measure of general psychological distress<sup>31</sup> were highly correlated with those on the MCS ( $r = .76$ ) and, therefore, are not reported.

**Definitions of Overeating and Compensatory Behaviors.** Recurrent (regular) OBEs were considered to occur if the individual reported the occurrence, on average, of one or more OBEs per week, in the absence of recurrent SBEs, whereas recurrent SBEs were considered present among participants who reported one or more SBEs per week in the absence of recurrent OBEs. Participants who reported the regular (at least weekly) use of self-induced vomiting, laxatives, or diuretics to influence weight or shape and who did not report the regular use of nonpurging methods of weight control, namely, excessive exercise, extreme dietary restriction, or diet pills, were designated as purgers. Participants who reported hard exercise for weight or shape reasons at least daily, going without food for periods of  $\geq 8$  waking hours to influence weight or shape every day, or almost every day, or regular use of diet pills, and who did not report the regular use of purging behaviors, were designated as nonpurgers. Extreme dietary restraint was defined in this way because evidence suggests that the DSM-IV criterion of fasting may be overly restrictive.<sup>41</sup>

### Statistical Analysis

Data for participants who reported the regular use of both purging and nonpurging methods of weight control ( $n = 23$ ) were excluded on account of the small size of this subgroup. Therefore, data for 5,232 individuals were included in the analysis. After inspecting the data for normality, a  $4 \times 3$  factorial analysis of variance (ANOVA) was used to examine the effects of overeating type (i.e., no bulimic episodes, SBEs, OBEs, both SBEs and OBEs), compensation type (i.e., no compensation, nonpurging, purging), and their interaction, on levels of eating disorder psychopathology, as measured by the EDE-Q global score, and levels of functional impairment, as measured by the MCS. Post-hoc tests with Bonferroni correction

**TABLE 1. Study design: number of participants in each of the 12 cells created by the factorial cross of independent variables: type of overeating (no bulimic episodes, SBEs, OBEs, SBEs and OBEs) and type of compensation (no compensation, nonpurging, purging) (total  $n = 5,232$ )**

Type of Overeating	Type of Compensation		
	No Compensation	Nonpurging	Purging
No bulimic episodes	4,134	72	39
SBEs	393	24	21
OBEs	304	16	17
SBEs and OBEs	172	12	28

Note: *Bulimic episodes* refers to the occurrence of OBEs and/or SBEs, irrespective of the occurrence of extreme weight control behaviors. SBE = subjective bulimic episode; OBE = objective bulimic episode.

were conducted to identify the source of main effects significant at the .05 level. Where appropriate, tests of simple main effects were employed to clarify the source of significant interaction effects. Post-hoc tests with Bonferroni correction also were conducted to identify the source of simple main effects significant at the .05 level. Table 1 shows the number of participants in each of the 12 subgroups created by the factorial cross of the 2 independent variables.

## Results

Age and BMI were first compared between groups. The effects on age of type of overeating, type of compensation, and their interaction were all significant ( $F_{3, 5,196} = 3.19, p < .05$ ;  $F_{2, 5,196} = 3.15, p < .01$ ;  $F_{6, 5,196} = 3.32, p < .01$ ; respectively). Participants who did not report bulimic episodes tended to be older ( $M = 30.00, SE = 0.48$ ) than those who reported both OBEs and SBEs ( $M = 27.53, SE = 0.85; p = .07$ ), whereas participants who reported the use of nonpurging weight control behaviors tended to be younger ( $M = 27.29, SE = 0.81$ ) than those who reported the use of purging behaviors ( $M = 29.72, SE = 0.73; p = .08$ ) or no extreme weight control behaviors ( $M = 29.28, SE = 0.20; p = .05$ ). Among participants who did not report extreme weight control behaviors, those who did not report bulimic episodes were older than each of the other overeating subgroups ( $F_{3, 4,976} = 13.72, p < .01$ ; all  $p < .01$ ), whereas among participants who reported the use of nonpurging weight control behaviors, those who reported both OBEs and SBEs were younger than those who did not report bulimic episodes and those who reported OBEs ( $F_{3, 119} = 6.69, p < .01$ ; both  $p < .05$ ). There were no significant differences between overeating subgroups among participants who reported the use of purging behaviors ( $F_{3, 101} = 1.91, p > .05$ ).

There was a significant effect of type of overeating (but not type of compensation or the interaction term) on BMI ( $F_{3, 4,858} = 8.49, p < .01$ ). Participants who reported recurrent OBEs ( $M = 28.03, SE = 0.63$ ) had higher BMIs than those who reported recurrent SBEs ( $p < .01$ ) and those who reported neither OBEs nor SBEs ( $p < 0.01$ ) (no OBEs: 24.47, 0.35; SBEs: 25.05, 0.54; OBEs and SBEs: 25.92, 0.64). The highest BMIs were observed among participants who reported recurrent OBEs and the use of extreme weight control behaviors, whether purging ( $M = 28.73, SD = 9.41$ ) or nonpurging ( $M = 28.20, SD = 6.98$ ).

Figure 1 shows the effects of type of overeating and type of compensation on EDE-Q global scores. The effects of overeating type, compensation type, and their interaction, were all significant (overeating:  $F_{3, 5,138} = 68.96, p < .01$ ; compensation:  $F_{2, 5,138} = 96.31, p < .01$ ; interaction:  $F_{6, 5,138} = 4.08, p < .01$ ). Participants who did not report either OBEs or SBEs had lower EDE-Q scores than each of the other subgroups (all  $p < .01$ ). In addition, participants who reported both OBEs and SBEs had higher EDE-Q scores than those who reported only OBEs and those who reported only SBEs (both  $p < .01$ ), whereas scores did not differ significantly between the latter groups ( $p > .05$ ). Participants who reported the use of extreme weight control behaviors, whether purging or nonpurging, had higher EDE-Q scores than those who did not report such behaviors (both  $p < .01$ ). In addition, participants who reported the use of nonpurging behaviors had higher EDE-Q scores than those who reported purging behaviors ( $p < .05$ ).

Among participants who did not report the use of extreme weight control behaviors, scores on the EDE-Q were lower among those who did not report either OBEs or SBEs than those in each of the other overeating subgroups ( $F_{3, 4,919} = 544.62, p < .01$ ; all  $p < .01$ ). This pattern was also observed among participants who reported the use of nonpurging behaviors ( $F_{3, 118} = 14.25, p < .01$ ; all  $p < .01$ ). In addition, in the no compensation subgroup, EDE-Q scores were higher among participants reporting both OBEs and SBEs than those reporting only OBEs, and higher among those reporting only OBEs than among those reporting only SBEs (all  $p < .01$ ). In contrast, among participants reporting the use of purging behaviors, the only difference between subgroups of overeaters was that participants who reported both OBEs and SBEs had higher scores than those who did not report either OBEs or SBEs ( $F_{3, 101} = 4.23, p < .01; p < .01$ ).

Figure 2 shows comparable results for scores on the SF-12 MCS. The effects of overeating type and

FIGURE 1. Effects of type of overeating (no bulimic episodes, subjective bulimic episodes [SBEs], objective bulimic episodes [OBEs], SBEs and OBEs) and type of compensation (no compensation, nonpurging, purging) on levels of eating disorder psychopathology, as measured by the Eating Disorder Examination-Questionnaire (EDE-Q) global score.

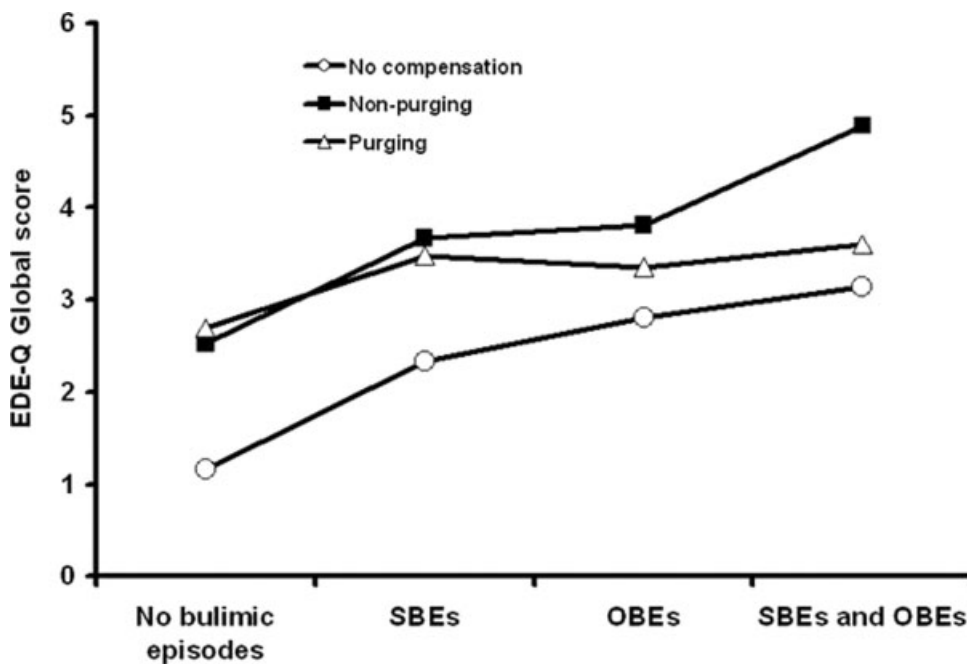
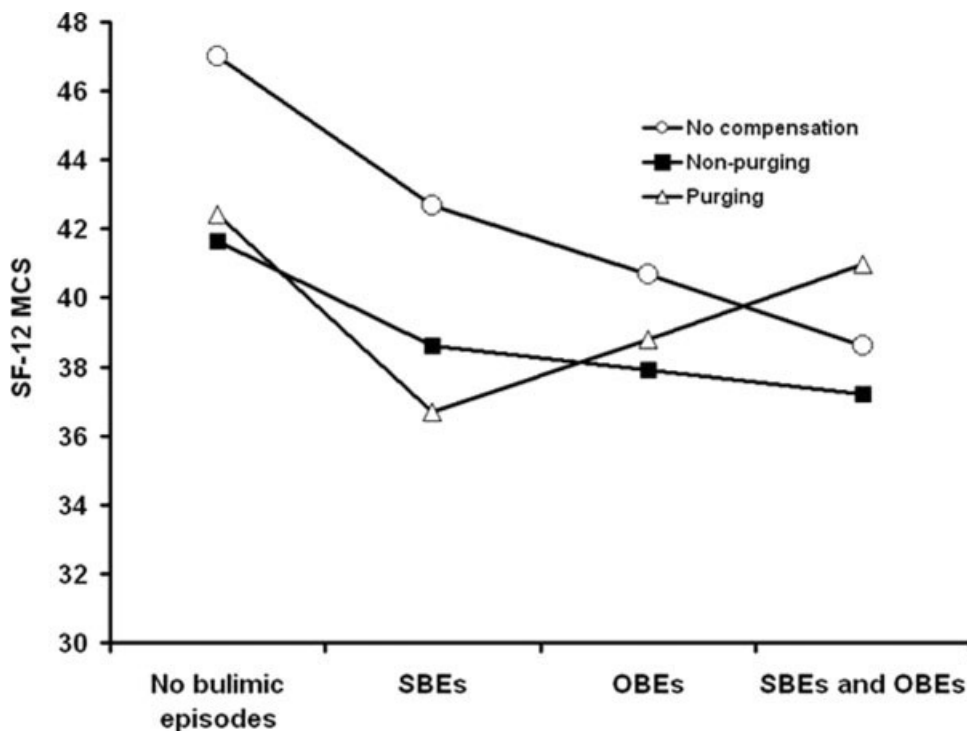


FIGURE 2. Effects of type of overeating (no bulimic episodes, subjective bulimic episodes [SBEs], objective bulimic episodes [OBEs], SBEs and OBEs) and type of compensation (no compensation, nonpurging, purging) on levels of functional impairment, as measured by the Medical Outcomes Study Short-Form Disability Scale (SF-12) Mental Component Summary Scale (MCS).



compensation type were significant (overeating:  $F_{3, 4,977} = 7.11, p < .01$ ; compensation:  $F_{2, 4,977} = 5.85, p < .01$ ), whereas the interaction was nonsigni-

ficant ( $F_{6, 4,977} = 1.70, p = .12$ ). Participants who did not report either OBEs or SBEs had higher scores on the MCS (indicating lower levels of impairment)

than participants in each of the other overeating subgroups (all  $p < .01$ ), whereas scores did not differ among the latter 3 subgroups (all  $p > .05$ ). Participants who did not report the use of extreme weight control behaviors had higher MCS scores than those who reported the use of nonpurging behaviors ( $p < .05$ ), and to a lesser extent, those who reported purging behaviors ( $p = .08$ ), whereas scores did not differ between purgers and nonpurgers ( $p = 1.0$ ).

Whereas the interaction term was not statistically significant, the effect of overeating type was found to differ as a function of type of compensation. Among participants who did not report the use of extreme weight control behaviors, scores on the MCS were higher among those who did not report either OBEs or SBEs than among each of the other overeating subgroups ( $F_{3, 4,762} = 79.18, p < .01$ ; all  $p < .01$ ). In addition, individuals who reported both OBEs and SBEs had lower scores than those who reported only SBEs ( $p < .01$ ) and there was a tendency for individuals who reported only OBEs to have lower scores than those who reported only SBEs ( $p = .08$ ). In contrast, there were no significant differences between overeating subgroups among participants who reported the use of extreme weight control behaviors, whether purging ( $F_{3, 98} = 1.19, p > .05$ ) or nonpurging ( $F_{3, 117} = 0.82, p > .05$ ).

Three sets of additional analysis were conducted. First, in view of the differences between groups with respect to age and BMI, the analysis was repeated, for both dependent variables, with age and BMI entered as covariates. Second, because a specific item of the Restraint subscale of the EDE-Q was employed in the definition of extreme dietary restriction, scores on this scale, and in turn EDE-Q global scores, may have been artificially inflated among participants employing nonpurging methods of weight control. Therefore, for the EDE-Q, the analysis was repeated using a Restraint subscale comprising the four remaining items only. Finally, in view of the large discrepancies in sample sizes across cells, and consequent violation of the assumption of homogeneity of variance (Levine's test: EDE-Q:  $F_{11, 5,138} = 5.05$ ; MCS:  $F_{11, 4,979} = 3.55$ ; both  $p < .01$ ), the analysis was repeated for both dependent variables using rank-ordered data.<sup>42</sup>

In each case, results were unchanged, with one exception. Scores on the MCS were no longer significantly lower among nonpurgers than among participants who did not report the use of extreme weight control behaviors after age and BMI were statistically controlled ( $p = .14$ ; no compensation: estimated marginal mean = 42.49,  $SE = 0.31$ ; purg-

ing: 39.67, 1.10; nonpurging: 39.89, 1.27). This difference appears to have been due to the younger age of nonpurgers ( $F_{1, 4,634} = 14.47, p < .01$ ) and a positive association between age and MCS scores ( $r = .08, p < .01$ ). Full details of the analysis are available from the first author upon request.

## Conclusion

A factorial design was employed to compare levels of eating disorder psychopathology and functional impairment associated with different combinations of overeating and weight control behaviors in a large community-based sample of young adult women. Participants who reported recurrent bulimic episodes had significantly higher levels of eating disorder psychopathology and functional impairment than those who did not, and this was the case whether the bulimic episodes were objective or subjective. Similarly, participants who reported the use of extreme weight control behaviors had higher levels of eating disorder psychopathology and functional impairment than those who did not, and this was the case whether purging or nonpurging behaviors were employed. The combination of recurrent bulimic episodes, whether subjective or objective, and the use of extreme weight control behaviors, whether purging or nonpurging, was associated with particularly high levels of eating disorder psychopathology and functional impairment. Between-group differences in age and BMI did not influence the results.

Arguably, the most notable finding is that eating disorders characterized by recurrent SBEs and extreme weight control behaviors were associated with marked impairment in functioning, comparable to that of disorders involving recurrent OBEs and extreme weight control behaviors. Further, the combination of SBEs and extreme weight control behaviors ( $n = 45$  [0.9%]) was more common than that of OBEs and extreme behaviors ( $n = 33$  [0.7%]). In these respects, the current findings are consistent with those of previous community and primary-care studies<sup>26,27</sup> in which both OBEs and SBEs have been assessed. The findings also are consistent with the view that the experience of loss of control over eating may be a better index of psychiatric disturbance among individuals affected by BN-type eating disorders than the amount of food consumed.<sup>21-24</sup> To date, however, this view has not impacted the DSM-IV definition of binge eating.<sup>1</sup> Because the clinical significance of BN-type eating disorders characterized by recurrent OBEs, namely, BN and BED, has already been established, we sug-

gest that the characteristics and course of eating disorders characterized by recurrent SBEs and extreme weight control behaviors, both purging and nonpurging, should be a priority for future research.

In the meantime, it is instructive to consider how eating disorders of this kind, and other forms of EDNOS, might be accommodated in future revisions of the Diagnostic and Statistical Manual of Mental Disorders. The most conservative option would be to retain all three subgroups of BN-type EDNOS, namely, BN-type disorders not meeting the DSM-IV binge-purge frequency criterion, BED, and disorders characterized by the use of extreme weight control behaviors in the absence of binge eating, within the EDNOS category. A second and minimally invasive option would be to give formal recognition to BED, for example, in the form of a no compensation subtype of BN, alongside purging and nonpurging subtypes, or perhaps alongside a compensating BN that would replace the latter subgroups.<sup>18</sup> Changes of this kind could be made in conjunction with a revision of the binge/purge frequency criterion such that the weekly occurrence of binge eating and compensation would be sufficient for the diagnoses of BN and the weekly occurrence of binge eating sufficient for BED.

Finally, formal recognition might be given to eating disorders characterized by compensation in the absence of binge eating. This is a more controversial option. Traditionally, binge eating has been viewed as the defining feature of BN and this is reflected in the fact that the word *bulimia* derives from a Greek term meaning “ox hunger.”<sup>43</sup> Incorporation within classification schemes of a compensatory disorder would entail a shift in this emphasis and perhaps the introduction of a new term in place of BN.<sup>16</sup> Further, the current findings suggest that it may be the combination of bulimic episodes and extreme weight control behaviors that is significant in terms of impairment in psychosocial functioning, rather than the use of extreme weight control behaviors per se, and that this is the case for both OBEs and SBEs. Hence, a change in the definition of binge eating, emphasizing the experience of a loss of control over eating, irrespective of the amount of food consumed, might also need to be considered and this would make matters considerably more complicated. In the absence of further evidence, it would appear premature to recommend changes of this kind.

A notable strength of the current research was the use of a large, representative, community-based sample, thereby avoiding biases inherent in the use of samples of patients with BN receiving specialist treatment.<sup>24,44</sup> The principal limitation

of the study is that assessment of bulimic episodes was by self-report. Concordance between self-report and interview assessment of overeating behaviors has frequently been found to be poor and it is generally assumed that self-report assessment is inferior.<sup>28</sup> Agreement between the EDE-Q and EDE assessment of SBEs may be particularly poor,<sup>32</sup> although this finding needs to be qualified in view of the fact that EDE assessment of SBEs is itself highly unreliable,<sup>45</sup> perhaps reflecting the fact that determination of loss of control associated with episodes of perceived overeating is particularly difficult when the amount of food consumed is not large. The current findings, and those of our earlier research,<sup>25–27</sup> suggest that (EDE and) EDE-Q assessment of SBEs is tapping a meaningful construct, but the nature of this construct remains unclear. It is noteworthy that in the current study, close to 40% of participants who reported recurrent OBEs also reported recurrent SBEs. It is possible that this finding is an artifact of the separation of bulimic episodes into subjective and objective and/or the fact that assessment of OBEs precedes that of SBEs in the (EDE and) EDE-Q.

A second limitation of the current research concerns the use of functional impairment as a validator for “true” disorder. Whereas it is generally accepted that the demonstration of clinically significant impairment in everyday functioning is one important marker for psychiatric diagnosis, the use of this criterion presents a number of practical difficulties.<sup>46</sup> For one thing, there is no agreed upon way to operationalize clinically significant impairment. Different measures might be used for this purpose and different cutoff points chosen on any particular measure. The SF-12 MCS was employed in the current study simply because this measure comes close to capturing the clinical significance criterion as defined in DSM-IV.<sup>1</sup> There is also no agreed upon method by which to determine that impairment is caused by a particular set of symptoms. Given the high levels of comorbidity between eating disorders, anxiety disorders, and affective disorders, this is a significant problem.<sup>47</sup> Finally, it should be noted that the results of post-hoc comparisons of simple main effects need to be interpreted with caution given the small number of participants in some cells and, in turn, the limited power to detect between-group differences.

In sum, the current findings suggest that it may be the combination of bulimic episodes, objective or subjective, and extreme weight control behaviors, purging or nonpurging, that is of greatest significance in terms of impairment in psychosocial

functioning among individuals affected by eating disorders not meeting formal diagnostic criteria for BN. The characteristics and course of eating disorders characterized by recurrent SBEs and extreme weight control behaviors, both purging and non-purging, warrant further investigation.

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