Published in final edited form as:

Gen Hosp Psychiatry. 2014 ; 36(2): 177–180. doi:10.1016/j.genhosppsych.2013.10.011.

An examination of weight bias among treatment-seeking obese patients with and without binge eating disorder

Rachel D. Barnes, Ph.D.^{a,*}, Valentina Ivezaj, Ph.D.^a, and Carlos M. Grilo, Ph.D.^{a,b}

^aDepartment of Psychiatry, Yale University School of Medicine, New Haven, CT 06510, USA

^bDepartment of Psychology, Yale University, New Haven, CT 06510, USA

Abstract

Objective—The objective was to compare weight-bias attitudes among treatment-seeking obese patients with and without binge eating disorder (BED vs. NBO) and to explore racial and sex differences and correlates of weight-bias attitudes.

Method—Participants included 221 obese patients (169 female, 52 male) seeking treatment for weight and eating, recruited through primary care settings; of these, 168 patients met BED criteria. Patients completed semi-structured interviews and psychometrically established self-report measures of attitudes about obesity, eating pathology and depression.

Results—Main effects for group (BED vs. NBO) and race (White vs. African American) were significant. Patients with BED had significantly higher levels of negative attitudes towards obesity than NBO patients, while African American patients had significantly lower levels of weight bias than did White patients. Greater negative attitudes towards obesity were significantly correlated with higher levels of depression and eating pathology for all patients.

Conclusions—Endorsement of negative weight bias was related to binge eating status, race, disordered eating, and depression. Primary care providers should be aware of weight biases among their patients.

Keywords

Obesity; Binge eating; Stigma; Attitudes; Weight bias

1. Introduction

Obesity rates have dramatically risen to epidemic proportions in the United States [1] and globally [2]. In addition to being at heightened risk for numerous medical [3] and psychological [4] comorbidities, obese individuals also face pronounced weight bias in multiple life domains [5]. A considerable research literature documents the pervasiveness of negative weight bias across areas including, but not limited to, education, workplace, and even health care settings [5, 6]. For example, among health care providers, nurses [7], primary care physicians [8], mental health professionals [9], family physicians [10] and even those specializing in obesity treatment and research [11] demonstrate negative weight bias towards obese patients.

Such widespread stigma is concerning as experiencing weight bias from others is related to a number of negative psychological outcomes, such as greater depression, body image dissatisfaction, general psychiatric symptoms, poorer self-esteem and eating disturbances such as binge eating behaviors [12, 13]. Recently, more attention has been devoted to examining weight-bias attitudes specifically within groups of obese persons. Contrary to theories postulating that individuals perceive their in-group with positive regard [14], those who are obese tend to report negative weight bias towards other obese individuals as well [15]. Interestingly, obese individuals who endorse negative weight bias about other obese people also report greater general psychiatric symptoms [12]. Due to widespread, commonly accepted stigma towards obesity, it has been speculated that some obese individuals may internalize weight biases, potentially leading to adverse sequelae [16], including binge eating [17].

It may be important to investigate negative weight bias on the subgroup of obese individuals who also have binge eating disorder (BED). BED, a formal diagnosis in the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)* [18], is defined by recurrent binge eating (eating unusually large amounts of food while experiencing a sense of loss of control), marked distress and the absence of inappropriate weight compensatory behaviors (such as self-induced vomiting) that characterize bulimia nervosa. BED is a prevalent problem associated with obesity and increased medical and psychiatric comorbidity and psychosocial impairment relative to obese persons without BED [19, 20] and with increased health care utilization particularly in generalist medical settings [21, 22]. Little is known about weight-bias attitudes among obese patients with BED, including whether they differ from obese patients who do not binge eat. The heightened distress and body image concerns characteristic of obese patients with BED relative to non-binge-eating obese patients [19] suggests the logic of examining their attitudes regarding obesity.

To date, only a few studies have examined weight bias in association with BED [16, 23, 24]. Greater internalized weight bias was associated with greater fat phobia, depression, eating disorder pathology and lower self-esteem among obese treatment-seeking patients with BED [16]. Only two small studies, however, have specifically compared negative attitudes towards obesity between obese individuals with and without BED [23, 24]. Findings from a preliminary study suggested that treatment-seeking obese patients with BED and age-matched and body mass index (BMI)-matched obese persons without BED recruited from a non-commercial weight loss support group organization did not differ significantly in their attitudes towards obesity [23]. Puhl et al. [23] also reported that negative attitudes towards obesity were not significantly associated with eating disorder pathology although they were negatively associated with self-esteem and positively associated with depression. Similar findings were reported for a treatment-seeking sample of obese Hispanic patients with and without BED [24]. The small sample sizes and the different recruitment methods used to obtain the treatment-seeking BED and non-BED obese controls [23] limit generalizability of the findings and indicate the need for larger studies that utilize similar recruitment methods.

Even less is known about sex and racial differences in weight bias among obese individuals who binge eat despite high rates of obesity and binge eating among both men and women [25] and across minority groups [22, 26]. As noted above, Puhl et al. [24] compared attitudes towards obesity in BED and non-BED within Latinos but could not address sex or ethnic/racial variation. Puhl et al. [23] observed no significant differences in anti-obesity attitudes by ethnicity/race within the small BED group and could not examine this in their non-BED group that was primarily White. Examining weight bias by race and sex is important, given the well-established ethnic/racial and sex differences [27, 28] in body image, which may influence attitudes towards obesity. Although it is recognized that weight bias is associated with a number of adverse sequelae [12], it is unknown whether this relationship is

exacerbated for women, men or those who identify with particular racial groups. As such, further investigation of both sex and ethnic/racial variations in weight-related bias is indicated.

Overall, major gaps in the literature include the scarcity of research on weight bias, race and sex among obese individuals with BED. Research with larger samples and more relevant comparison groups is needed to explore further whether weight bias differs as a function of disordered eating pathology among treatment-seeking obese individuals. If weight biases are stronger among those with BED, this may have important implications for BED prevention and treatment interventions. Thus, the purpose of the present study was to examine weight bias in a diverse sample of treatment-seeking obese men and women with and without BED.

2. Methods

2.1. Participants

Participants included 221 obese (BMI ≥ 30) treatment-seeking patients with and without BED, recruited similarly using flyers placed in local primary care offices in an urban setting. The flyers recruiting individuals with BED included advertisements offering treatment for binge eating or compulsive eating and weight loss; the flyers recruiting obese individuals without BED included advertisements offering treatment for weight loss. The BED group consisted of individuals who met *DSM-5* criteria for BED except that the stricter duration criteria of 6 months from the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR)* were used. The BED group ($n=168$) consisted of 126 (75%) women and 42 (25%) men, with an average age of 46.57 years ($S.D.=10.61$) and BMI of 37.85 ($S.D.=5.12$). They identified themselves as the following races: 45.2% ($n=76$) White, not Hispanic; 13.7% ($n=23$) White, Hispanic; 32.1% ($n=54$) African American, not Hispanic; 1.8% ($n=3$) African American, Hispanic; 2.4% ($n=4$) Asian American; 0.6% ($n=1$) American Indian/Native Alaskan; 0.6% ($n=1$) Indian Caribbean; 1.2% ($n=2$) multiracial; 1.8% ($n=3$) considered themselves “other”; and 0.6% ($n=1$) was missing information. The comparison group consisted of 53 obese individuals who did not regularly binge eat and comprised 43 (81%) women and 10 (19%) men, with an average age of 49.66 years ($S.D.=9.95$) and BMI of 35.88 ($S.D.=5.20$). They identified themselves ethnically/racially as follows: 66.0% ($n=33$) White, not Hispanic; 5.7% ($n=3$) White, Hispanic; 26.4% ($n=14$) African American, not Hispanic; 1.9% ($n=1$) African American, Hispanic; 1.9% ($n=1$) Asian American; and 1.9% ($n=1$) bi/multiracial.

2.2. Procedures

Assessment procedures were performed by trained master- and doctoral-level research clinicians. Exclusion criteria included pregnancy or breastfeeding, current anti-depressant therapy (for the BED patients only), medical conditions (heart disease, liver disease, uncontrolled hypertension, hypothyroidism or diabetes) or certain severe psychiatric illnesses (e.g., bipolar disorder) requiring alternative treatments. BED diagnosis was based on the Structured Clinical Interview for *DSM-IV* Axis I Disorders, Patient Edition [29] and the Eating Disorder Examination (EDE) [30]. Participants' height was measured using a tape measure, and weight was measured using a high-capacity digital scale. Study procedures were approved by the institutional review board and all participants provided written informed consent. Participants completed the interview and self-report measures described below.

2.3. Measures

The *Eating Disorder Examination* (EDE) [30] is a semi-structured investigator-based interview for assessing eating disorders. The EDE focuses on the previous 28 days, except

for the diagnostic items that are rated per durations stipulated in the *DSM-IV-TR*. The EDE assesses the frequency of different forms of overeating, including objective bulimic episodes (defined as unusually large quantities of food with a sense of loss of control) that correspond to the *DSM*-based definition of binge eating episodes. The EDE also comprises four subscales: Dietary restraint, Eating concern, Weight concern, Shape concern and an overall Global score. The items for the four EDE subscales are rated on a seven-point forced-choice format (0–6), with higher scores reflecting greater severity or frequency. The EDE has demonstrated good inter-rater and test–retest reliability in diverse groups, including BED [31].

Attitudes Towards Obese People (ATOP) [32] Scale is a 20-item measure that assesses individuals' stereotypical views regarding obese people. Patients responded to questions such as “Most obese people are more self-conscious than other people” on a Likert scale ranging from –3 (*I strongly disagree*) to +3 (*I strongly agree*). Scores range from 0 to 120, with higher scores indicating more positive views of obese individuals. The ATOP has been found to be reliable in similar groups [33].

The Beck Depression Inventory-II (BDI) [34] is a 21-item version that assesses current depression level and symptoms of depression. It is a widely used and a well-established measure with excellent reliability and validity [35]. Higher scores reflect higher levels of depression and, more broadly, negative affect and are an efficient marker for broad psychopathology [36].

3. Results

Possible covariates were first examined using *t* tests and bivariate correlations. The groups did not differ on age; BED patients (BMI $M=37.85$, $S.D.=5.12$), however, were significantly heavier than NBO patients (BMI $M=35.88$, $S.D.=5.20$), $t(219)=2.44$, $P=.015$. BMI was not significantly correlated with ATOP scores for either the BED patients, $r(169)=-.123$, $P=.111$, or NBO patients, $r(53)=-.048$, $P=.734$. Therefore, BMI was not used as a covariate.

We examined differences in ATOP scores based on binge eating status, sex and race (due to the sample size, we were only able to compare White, not Hispanic, to African American, not Hispanic, patients). A 2 (Group: BED vs. NBO) $\times$ 2 (Sex: Male vs. Female) analysis of variance (ANOVA) revealed a main effect for Group, $F(1,170)=6.16$, $P=.014$, partial $\eta^2=.028$, and no significant main effects for Sex, $P=.205$, partial $\eta^2=.007$, or Group by Sex interaction, $P=.171$, partial $\eta^2=.009$. NBO patients ($M=65.68$, $S.D.=19.43$) had significantly higher ATOP scores than BED patients ($M=58.76$, $S.D.=20.12$). A second 2 (Group: BED vs. NBO) $\times$ 2 (Race: White, not Hispanic vs. African American, not Hispanic) ANOVA revealed main effects for Group, $F(1,173)=7.69$, $P=.006$, partial $\eta^2=.043$, and Race, $F(1,173)=5.50$, $P=.020$, partial $\eta^2=.031$, but the Group by Race interaction was not significant, $P=.268$. African American, not Hispanic, patients ($M=65.29$, $S.D.=20.03$) had significantly higher ATOP scores than White, not Hispanic, patients ($M=60.09$, $S.D.=18.20$).

Table 1 shows the descriptive data and bivariate correlations between the ATOP and BDI and EDE global scores and subscales. Correlation patterns did not differ between the BED and NBO groups, and the ATOP was significantly negatively correlated with depression, overall EDE scores and the Eating, Weight, and Shape concern subscales of the EDE but was not significantly correlated with the EDE Restraint subscale or number of binge episodes.

4. Discussion

This study examined weight bias among obese patients with and without BED who were seeking treatment for eating/weight concerns in primary care settings. While all patients endorsed negative attitudes towards obesity, patients with BED reported even greater negative attitudes towards obese people than did patients without BED. White patients also endorsed greater weight bias compared to African American patients. In addition, endorsement of weight bias was related to higher depression scores; concerns related to eating, weight and shape; and overall eating disorder psychopathology for patients with and without BED.

Two of the main findings, that BED and NBO patients differed in weight-bias endorsement and that weight bias was related to depression and eating psychopathology for all patients, are generally at odds with two previous preliminary small studies [23, 24]. The discrepancies, however, may be due to substantial methodological differences in patient recruitment and assessment. Specifically, both groups from the present study were recruited through a primary care setting and used the best-established assessment for eating disorder psychopathology (i.e., the EDE interview). Previously, participants were recruited through a mental health clinic vs. primary care [24], and in the second study, the comparison groups (NBO and BED) were recruited differently and the assessment of binge eating varied between the BED (EDE interview) and NBO (EDE self-report measure) groups [23]. The current findings, however, replicate and extend an examination of an obese-only treatment-seeking sample that found those with greater negative attitudes towards obese patients had higher levels of depression, body image disturbance and general psychiatric symptoms, and lower self-esteem [12].

Although weight bias differed based on BED status, it is not surprising that frequency of binge eating episodes was not related to negative weight attitudes towards others. It has been established that, once diagnosed with BED, greater number of binge eating episodes is not generally associated with greater severity [37, 38]. In addition, another study examining weight internalization (a related but separate construct) and BED replicated this finding [16]. On the other hand, the restricted range of scores may have contributed to the non-significant findings.

The current study extends previous literature by including a larger BED sample and by examining group (i.e., BED vs. NBO) differences related to sex and race. Weight bias did not differ as a function of sex. In other words, men and women reported similar levels of weight bias. With respect to race and weight bias, findings suggested that African American patients reported less weight bias than did their White obese and binge eating counterparts. These findings are in agreement with research suggesting that those who identify as African American are less likely to stigmatize obesity [39]. Taken together, levels of weight bias may be based on differences in cultural perceptions of weight and future research using larger samples is needed to elucidate further these findings.

Several limitations of the present study should be noted. Due to the cross-sectional design, causality between variables cannot be determined and prospective studies are needed to understand the relationship between weight bias, eating pathology, and depression. Our participants were treatment-seeking patients with obesity recruited from primary care settings and findings may not generalize to other clinical settings or to non-treatment-seeking samples. Another limitation was the relatively small sample size of men in both NBO and BED groups as well as the small sample size of African American patients within the NBO group.

Within this context of limitations, we cautiously provide the following implications that may be especially of interest to primary care providers and general medical hospital settings. Weight stigma in health care settings has been shown to be a significant treatment barrier for preventative care among obese patients (refer to Puhl and Heuer [5] for a review). While it has been documented that primary care providers hold negative stereotypes towards obese patients [8], less is known about how patients' negative attitudes towards obesity impact their likelihood to obtain health care services through primary care settings. Pervasive weight stigma among *both* providers *and* patients could be a potential barrier to treatment. Therefore, it may be important for primary care providers to be aware of such negative weight attitudes among their obese patients, particularly among White patients and patients with BED. Finally, health care providers should be aware of the link between weight bias, depression, and eating pathology among obese treatment-seeking patients. This awareness may help guide clinicians when providing weight loss treatment and in making appropriate referrals.

Acknowledgments

This study was supported, in part, by grants from the National Institutes of Health (K23 DK092279, K24 DK070052 and R01 DK49587). No additional funding was received for the completion of this work.

References

1. Flegel KM, Carroll MD, Ogden CL, Curtin LR. Prevalence and trends in obesity among US adults, 1999–2008. *J Am Med Assoc.* 2010; 303:235–241.
2. International Association for the Study of Obesity. [Retrieved on August 17, 2013] Obesity: preventing and managing the global epidemic. 2013. from <http://www.iaso.org/resources/world-map-obesity/>
3. Must A, Spadano J, Coakley EH, Field AE, Colditz, Dietz WH. The disease burden associated with overweight and obesity. *J Am Med Assoc.* 1999; 282:1523–1529.
4. Moreira RO, Marca KF, Appolinario JC, Coutinho WF. Increased waist circumference is associated with an increased prevalence of mood disorders and depressive symptoms in obese women. *Eat Weight Disord.* 2007; 12:35–40. [PubMed: 17384528]
5. Puhl RM, Heuer CA. The stigma of obesity: a review and update. *Obesity.* 2009; 17:941–964. [PubMed: 19165161]
6. Roehling MV, Roehling PV, Pichler S. The relationship between body weight and perceived weight-related employment discrimination: the role of sex and race. *J Vocat Behav.* 2007; 71:300–318.
7. Brown I. Nurses' attitudes towards adult patients who are obese: literature review. *J Adv Nurs.* 2006; 53:221–232. [PubMed: 16422721]
8. Foster GD, Wadden TA, Makris AP, Davidson D, Sanderson RS, Allison DB, et al. Primary care physicians' attitudes about obesity and its treatment. *Obes Res.* 2003; 11:1168–1177. [PubMed: 14569041]
9. Davis-Coelho K, Waltz J, Davis Coelho B. Awareness and prevention bias against fat clients in psychotherapy. *Psychol Res Pract.* 2000; 6:682–684.
10. Ferrante JM, Piasecki AK, Ohman-Strickland PA, Crabtree BF. Family physicians' practices and attitudes regarding care of extremely obese patients. *Obesity.* 2009; 17:1710–1716. [PubMed: 19282824]
11. Schwartz MB, Chambliss HO, Brownell KD, Blair SN, Billington C. Weight bias among health professionals specializing in obesity. *Obes Res.* 2003; 11:1033–1039. [PubMed: 12972672]
12. Friedman KE, Reichmann SK, Costanzo PR, Zelli A, Ashmore JA, Musante GJ. Weight stigmatization and ideological beliefs: relation to psychological functioning in obese adults. *Obes Res.* 2005; 13:907–916. [PubMed: 15919845]
13. Friedman KE, Ashmore JA, Applegate KL. Recent experiences of weight-based stigmatization in a weight loss surgery population: psychological and behavioral correlates. *Obesity.* 2008; 16:S69–S74. [PubMed: 18978766]

14. Crandall CS. Prejudice against fat people: ideology and self-interest. *J Pers Soc Psychol.* 1994; 66:882–894. [PubMed: 8014833]
15. Schwartz MB, Vartanian LR, Nosek BA, Brownell KD. The influence of one's own body weight on implicit and explicit anti-fat bias. *Obesity.* 2006; 14:440–447. [PubMed: 16648615]
16. Durso LE, Latner JD, White MA, Masheb RM, Blomquist KK, Morgan PT, et al. Internalized weight bias in obese patients with binge eating disorder: associations with eating disturbances and psychological functioning. *Int J Eat Disord.* 2012; 45:423–427. [PubMed: 21717488]
17. Puhl RM, Moss-Racusin CA, Schwartz MB. Internalization of weight bias: implications for binge eating and emotional well-being. *Obesity.* 2007; 15:19–23. [PubMed: 17228027]
18. American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 5th ed. Arlington, VA: American Psychiatric Publishing; 2013.
19. Grilo CM, Hrabosky JI, White MA, Allison KC, Stunkard AJ, Masheb RM. Overvaluation of shape and weight in binge eating disorder and overweight controls: refinement of BED as a diagnostic construct. *J Abnorm Psychol.* 2008; 117:414–419. [PubMed: 18489217]
20. Grilo CM, White MA, Masheb RM. DSM-IV psychiatric disorder comorbidity and its correlates in binge eating disorder. *Int J Eat Disord.* 2009; 42:228–234. [PubMed: 18951458]
21. Johnson JG, Spitzer RL, Williams BW. Health problems, impairment and illnesses associated with bulimia nervosa and binge eating disorder among primary care and obstetric gynaecology patients. *Psychol Med.* 2001; 31:1455–1466. [PubMed: 11722160]
22. Marques L, Alegria M, Becker AE, Chen C, Fang A, Chosak A, et al. Comparative prevalence, correlates of impairment, and service utilization for eating disorders across U.S. ethnic groups: implications for reducing ethnic disparities in health care access for eating disorders. *Int J Eat Disord.* 2011; 44:412–420. [PubMed: 20665700]
23. Puhl RM, Masheb RM, White MA, Grilo CM. Attitudes toward obesity in obese persons: a matched comparison of obese women with and without binge eating disorder. *Eat Weight Disord.* 2010; 15:e173–e179. [PubMed: 20124783]
24. Puhl RM, White MA, Paris M, Anez LM, Silva MA, Grilo CM. Negative weight-based attitudes in treatment-seeking obese monolingual Hispanic patients with and without binge eating disorder. *Compr Psychiatry.* 2011; 52:737–743. [PubMed: 21193178]
25. 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. [PubMed: 16815322]
26. Taylor JY, Caldwell CH, Baser RE, Faison N, Jackson JS. Prevalence of eating disorders among Blacks in a national survey of American life. *Int J Eat Disord.* 2007; 40 S10-4 [Special Issue on Diagnosis and Classification].
27. Akan GE, Grilo CM. Sociocultural influences on eating attitudes and behaviors, body image, and psychological functioning: a comparison of African-American, Asian-American, and Caucasian college women. *Int J Eat Disord.* 1995; 18:181–187. [PubMed: 7581421]
28. Miller KJ, Gleaves DH, Hirsch TG, Green BA, Snow AC, Corbett CC. Comparisons of body image dimensions by race/ethnicity and gender in a university population. *Int J Eat Disord.* 2000; 27:310–316. [PubMed: 10694717]
29. First, MB.; Spitzer, RL.; Gibbon, M.; Williams, JBW. Structured Clinical Interview for DSM-IV Axis I Disorders — Patient Edition. New York: New York State Psychiatric Institute, Biometrics Research Department; 1996.
30. Fairburn, CG.; Cooper, Z. The eating disorder examination. In: Fairburn, CG.; Wilson, GT., editors. *Binge eating: nature, assessment, and treatment.* 12th ed. New York: Guilford Press; 1993. p. 317-360.
31. Grilo CM, Masheb RM, Lozano-Blanco C, Barry DT. Reliability of the Eating Disorder Examination in patients with binge eating disorder. *Int J Eat Disord.* 2004; 35:80–85. [PubMed: 14705160]
32. Allison DB, Basile VC, Yuker HE. The measurement of attitudes toward and beliefs about obese persons. *Int J Eat Disord.* 1991; 10:599–607.
33. Puhl RM, Brownell KD. Confronting and coping with weight stigma: an investigation of overweight and obese adults. *Obesity.* 2006; 14:1802–1815. [PubMed: 17062811]

34. Beck, AT.; Steer, R. Manual for revised Beck Depression Inventory. New York: Psychological Corporation; 1987.
35. Beck AT, Steer R, Garbin MG. Psychometric properties of the beck depression inventory 25 years of evaluation. *Clin Psychol Rev.* 1988; 8:77–100.
36. Grilo CM, Masheb RM, Wilson GT. A comparison of different methods for assessing the features of eating disorders in patients with binge eating disorder. *J Consult Clin Psychol.* 2001; 69:317–322. [PubMed: 11393608]
37. Trace SE, Thornton LM, Root TL, Mazzeo SE, Lichenstein P, Pedersen NL, et al. Effects of reducing the frequency and duration criteria for binge eating on lifetime prevalence of bulimia nervosa and binge eating disorder: implications for DSM-5. *Int J Eat Disord.* 2012; 45:531–536. [PubMed: 21882218]
38. Wilson GT, Sysko R. Frequency of binge eating episodes in bulimia nervosa and binge eating disorder: diagnostic considerations. *Int J Eat Disord.* 2009; 42:603–610. [PubMed: 19610014]
39. Hebl MR, King EB, Perkins A. Ethnic differences in the stigma of obesity: identification and engagement with a thin ideal. *J Exp Soc Psychol.* 2009; 45:1165–1172.

Table 1

Descriptive statistics and bivariate correlations between ATOP and depression and eating disorder features by group

	BED (n=168)	BED (n=168)	NBO (n=53)	NBO (n=53)
	M (S.D.)	ATOP (r)	M (S.D.)	ATOP (r)
Attitudes Towards Obese People	58.76 (20.12)	-	65.68 (19.43)	-
Beck Depression Inventory	16.18 (9.85)	-.427***	6.68 (6.15)	-.320*
Eating Disorder Examination				
Global	2.56 (0.92)	-.354***	1.71 (0.90)	-.403**
Restraint	1.79 (1.37)	-.081	1.31 (1.06)	.048
Eating concern	1.84 (1.26)	-.335***	0.64 (1.02)	-.484***
Weight concern	3.16 (1.05)	-.363***	2.37 (1.16)	-.443**
Shape concern	3.48 (1.23)	-.308***	2.47 (1.30)	-.388**
Objective bulimic episodes	18.19 (15.21)	-.051	-	-

Note: BED, patients with binge eating disorder; NBO, patients without binge eating disorder.

* $P < .05$.

** $P < .01$.

*** $P < .0005$.