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Attitudes toward obesity in obese persons: A matched comparison of obese women with and without binge eating

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Abstract

No research has compared expressions of weight bias across different subgroups of obese individuals. This study compared attitudes toward and beliefs about obesity in women with and without binge eating disorder (BED) and examined whether these attitudes are related to psychological factors. Fifty obese women with BED were compared with an age- and body mass index (BMI)-matched group of 50 obese women without BED on a battery of established measures of anti-fat attitudes and beliefs about weight controllability and psychological factors (self-esteem, depression, and eating disorder features). The age-and BMI-matched groups did not differ with respect to beliefs about obesity or attitudes toward obese persons, or in self-esteem or depression. Correlational analyses conducted separately within each group revealed that women with BED who reported more favorable attitudes towards obese persons had higher self-esteem and lower levels of depression, whereas there were no significant associations between these variables among women without BED. In addition, weight controllability beliefs and eating disorder features were unrelated to self-esteem and depression in both groups. These findings suggest that stigmatizing attitudes endorsed by obese persons are neither tempered nor worsened by psychological distress or eating pathology. Given that stigmatizing attitudes did not differ between obese women with and without BED, it may be that obesity itself, rather than psychological features or disordered eating, increases vulnerability to negative weight-based attitudes. Potential implications for stigma reduction efforts and clinical practice are discussed.

Keywords

Obesity; binge eating; stigma; attitudes

INTRODUCTION

Negative societal attitudes are often directed towards obese youth and adults, who are frequent targets of weight-based stigma, prejudice, and discrimination. Obese persons face bias in employment settings, health care facilities, educational institutions, interpersonal relationships, and in the media, where portrayals of obese persons are especially harsh (1–3). Unfortunately, this form of bias is rarely challenged, resulting in a normative acceptability of anti-fat attitudes in North American culture.

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While there is an amassing literature documenting obese persons as targets of weight bias (2, 4), little work has examined the nature and extent of weight bias expressed by overweight and obese individuals themselves. Perhaps stemming in part from the socially acceptable nature of weight bias, several studies have demonstrated that weight-based stereotypes can also extend to obese persons who have been found to express anti-fat attitudes (5, 6). This finding is at odds with research of other stigmatized groups who often express favorable attitudes toward their in-group (7–10), leading some researchers to suggest that obese persons may internalize negative social weight-based stereotypes (5, 11).

Despite the fact that obese persons are a remarkably heterogeneous group (12–15), obese individuals with binge eating disorder (BED) have emerged as a distinct subgroup of this population. Unlike their non-binge eating counterparts, obese people with BED are also more likely to suffer from additional disorders and psychological distress, such as depression and anxiety (16). The emotional clinical features of binge eating include feeling disgusted, depressed, or guilty after overeating, feeling out of control during binge episodes, and marked distress regarding the binge eating (17). This heightened distress may help explain the findings from a recent experimental study by Bannon et al. which found that the presence of binge eating increased the likelihood of stigmatizing attitudes toward other obese targets. In other words, the degree to which obese people are distressed with themselves about their overeating may lead to increased blame of obese individuals as a group (18).

Consistent with this theory, persons who have been teased or victimized about their weight are more vulnerable to binge eating patterns (19–23), and those who internalize weight-based stereotypes may be at heightened risk of engaging in binge eating behaviors (11); furthermore – among both non-binge eaters (24) and binge eaters (25) – those who have been teased about weight have heightened body image psychopathology. It also appears that people express more stigma towards obese persons with BED compared to obese persons without binge eating (18).

Given these possible bi-directional links between stigma and binge eating, it is important to determine whether differences exist in the expression of weight bias between obese persons with and without BED. Potential differences between these groups may have important implications for whether, and how, weight bias should be addressed in treatment of BED and weight loss, as well as broader stigma reduction efforts. Thus, the aim of this study was to compare anti-fat attitudes and beliefs about the causes of obesity in a matched sample of obese women with and without BED, and to examine whether these attitudes are related to indices of psychological well-being including self-esteem and depression.

METHODS AND PROCEDURES

Participants

In order to compare weight bias among obese individuals with and without binge eating problems, two study groups of women, matched for BMI and age, were obtained for this study. Institutional Review Board approval was obtained for the study and all participants provided written informed consent. Each study group is described below.

Study group #1: Obese adults with binge eating disorder (BED)—Participants were a consecutive series of 50 women who were respondents for a treatment study for obese persons who binge eat being performed in primary care settings in a large university-based medical center in an urban setting. Participants were required to be obese [body mass index (BMI) ≥30] with subthreshold BED (≥1 binges weekly) or full BED (≥2 binges weekly). Participants with subthreshold BED were included because research has found that

they generally do not differ significantly from individuals with full BED (26, 27) and to increase generalizability. The treatment study was an "effectiveness" study with minimal exclusionary criteria intended to enhance generalizability; notable exclusion criteria included current antidepressant therapy, severe medical problems (cardiac, liver disease), and uncontrolled hypertension or diabetes.

Participants completed a battery of self-report questionnaires, and were then interviewed by experienced doctoral-level research clinicians who were trained in the administration of all of the study interviews and measures. BED diagnoses [subthreshold and full DSM-IV (17) research criteria] were determined using the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I/P) (28) and the Eating Disorder Examination (29), which also generated data regarding eating disorder psychopathology (described below). Actual measurements of weight and height were obtained using a calibrated medical balance beam scale.

Study group #2: Obese adults without binge eating (OB)—The second study group (OB) consisted of 50 obese women with no binge eating behaviors. These women were selected from an initial sample of 2449 female participants who completed a battery of online surveys in 2006 about weight-based stigmatization, psychological functioning, and eating behaviors. Participants were recruited through their membership to a national nonprofit, non-commercial, weight-loss support group organization. Recruitment involved advertising the study as a voluntary research project at the organization official website, and in their monthly news magazine. Characteristics of this sample are published elsewhere (30). BED status was determined using the Questionnaire on Eating and Weight Patterns-Revised (QEWP-R) (31) described below.

Only 26% of the initial sample responded to enough questions on the QEWP-R to determine an accurate binge-eating status using DSM-IV criteria (this survey was the final measure of the battery of online surveys, and it is likely that many participants dropped out prior to completing this survey). Of the 636 participants who answered sufficient questions on the QEWP-R to determine BED status, 211 did not endorse any symptoms of BED and were therefore eligible for inclusion in this study. Of these 211 participants, 92 were excluded because of unusable or missing data on key study measures, and 71 were excluded beacause their BMI or age was above or below the range [mean (M) ± 1 standard deviation (SD)] for the BMI and age in the BED study group. The total number of participants resulted in 50 women matched for BMI and age to the BED study group.

Measures

Demographic and weight information—Participants in both groups were asked to report their age, gender, and race/ethnicity. Additional items were asked to assess participants' childhood weight status and age of their first dieting attempt. Participants' body weight and height were measured in the BED group, and were self-reported in the OB group.

Anti-fat attitudes—The Attitudes Toward Obese People Scale (ATOP) is a 20-item Likert rating scale which measures stereotypical attitudes about obese people (32). Each question asks respondents to indicate the extent of agreement or disagreement (+3 to −3) to a specific statement, such as "Obese workers cannot be as successful as other workers". Scores range from 0 to 120, where higher scores reflect more positive attitudes toward obese people. Adequate internal reliability for this scale has been demonstrated in adult populations (30, 32, 33). In the OB group the alpha reliability was 0.72, and in the BED group Cronbach's alpha was 0.75.

Beliefs about the causes of obesity—The Beliefs About Obese Persons Scale (BAOP) is an 8-item Likert rating scale which assesses beliefs about the causes of obesity (32). Each question asks individuals to indicate the extent of agreement or disagreement (+3 to −3) to a specific statement about the causes of obesity, such as "Obesity is really caused by a lack of willpower". Scores range from 0 to 48, where higher scores indicate beliefs that obesity is not controllable. Coefficient alphas in previous research have ranged from 0.65 to 0.82 (30, 32). For the OB group Cronbach's alpha was 0.71, and for the BED group alpha was 0.67.

Self-esteem—The Rosenberg Self-Esteem Questionnaire (RSQ) is a 10-item well-validated and widely-used measure of general self-worth and global self-esteem (34). Lower total scores indicate lower self-esteem.

Depression—The Beck Depression Inventory (BDI), 21-item version, was used to assess depressive symptoms (35). The BDI is a widely used and well-established measure with excellent reliability and validity (36). The BDI uses a rating scale from 0 to 3, where higher scores reflect more severe depressive symptoms. Although it is not a diagnostic tool, it performs well as a measure of depressive features and is an efficient marker for negative affect and broad psychopathology (37).

Binge eating behaviors—The Questionnaire for Eating and Weight Patterns-Revised (QEWP-R) (31) is a self-report instrument used in the DSM-IV field trials (38). The QEWP-R assesses each criterion of BED, including the DSM-IV-TR (39) behavioral indicators to assist in determining binge eating. Studies have reported adequate convergence between the QEWP-R and diagnostic interviews for determining the presence or absence of BED (38, 40, 41). In this study, coefficient alpha for the internal reliability of the items used to screen for BED was 0.70.

The Eating Disorder Examination (EDE) (29) was administered only to the BED group in this study. The EDE is a semi-structured investigator-based interview that assesses the specific features of eating disorders. The EDE focuses on the previous 28 days, except for the diagnostic items that are rated per the durations stipulated in the DSM-IV (17). The EDE assesses the frequency of different forms of overeating, including objective bulimic episodes (OBEs; i.e., binge eating defined as unusually large quantities of food with a subjective sense of loss of control). The EDE also comprises four subscales: Dietary Restraint, Eating Concern, Weight Concern, and Shape Concern, and an overall Global score. The items assessing the features of eating disorders 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 is a well-established widely-used interview (42, 43) with demonstrated good inter-rater and test-retest reliability in BED (44). The EDE interview generated data that were used to explore associations between binge eating behavior and eating disorder psychopathology and variability in attitudes and beliefs about obesity within obese patients with BED.

RESULTS

Table 1 shows the descriptive statistics of each study group for the primary variables of interest. Analyses of variance (ANOVAs) revealed no significant differences between the BED and OB groups with respect to BMI, age, self-esteem, depression, or ATOP and BAOP scores (all requirements and assumptions for ANOVA were met). The means for depression and self-esteem were in the mild to moderate clinical range for both groups. Women in the OB group were primarily Caucasian (95%), where as the BED group consisted of 42% Caucasian, 40% Black, and 12% Hispanic women. ANOVAs revealed no significant

differences between these ethnic sub-groups in the BED group on any of the primary variables.

Attitudes toward obese persons (ATOP scores) were very similar in the OB group [t(98)=1.87, p=0.17]. Mean scores on the ATOP for both the OB and BED groups were somewhat more favorable compared to previous research with obese participants in a residential weight loss facility (M=54.3, SD=15.1) (43). Both groups endorsed similar weight controllability beliefs (BAOP scores) (Table 1). The OB and BED groups endorsed lower weight controllability beliefs compared to previous research with a weight loss treatment sample (M=11.7, SD=5.0) (43). In contrast, both the OB and BED groups displayed more negative attitudes and considerably stronger beliefs in the personal controllability of weight compared to obese members of the National Association for the Advancement of Fat Acceptance (NAAFA) (ATOP M=67.6, SD=18.6; BAOP M=31.7, SD=10.5) (30).

Bivariate correlation analyses were conducted within each study group separately to examine associations between attitudes and beliefs about obesity, eating disorder psychopathology, and psychological variables (Table 2).

For both the BED and OB groups, there were no significant correlations between BAOP scores and self-esteem or depression. In contrast, within the BED group – but not the OB group –ATOP scores were significantly positively correlated with self-esteem ($r=0.40$, $p<0.01$) and significantly negatively correlated with depression ($r=-0.36$, $p<0.05$). In addition, within the BED group, eating disorder psychopathology (OBE frequency and EDE scales) were not significantly correlated with either BAOP or ATOP scores.

DISCUSSION

Our findings support previous research that obese persons are not immune to negative attitudes toward obese people (5, 6, 45). However, this study expands beyond previous work and is the first to compare these attitudes among obese women with and without BED and found that the level of expressed weight bias does not differ between these two subgroups of obese women. Our findings suggest that stigmatizing attitudes that are present in obese women do not seem to be either tempered or worsened by psychological distress or eating pathology. These findings are counter to suggestions that persons with BED would express less stigma given the level of distress and shame associated with binge eating, and the potentially heightened awareness of body image concerns and stigma associated with binge eating (17, 18, 46). Instead, our findings suggest that stigmatizing attitudes are not limited to obese women without psychological distress or eating pathology, but extend to those with comorbid eating disorder psychopathology (binge eating and associated eating disorder features including shape and weight concerns). Thus, it appears that obesity itself, rather than psychological features or disordered eating, increases vulnerability to negative weight-based attitudes.

It may be that endorsement of anti-fat attitudes in both groups reflects internalized societal stereotypes and stigma that are often directed to obese persons. Increasing work has demonstrated internalization of stigma among obese individuals (5, 46), with some research showing that internalization increases vulnerability to binge eating (11, 46). Wang et al. suggest that anti-fat attitudes among obese individuals may exist in part because of perceptions (and messages from the media and diet industry) that body weight is easily modifiable (5). When an individual tries to lose weight but is unable to achieve or sustain weight loss, it may reinforce internal perceptions that they are at fault, lazy, or lacking in willpower. Repeated failures at weight loss may perpetuate these negative self-perceptions.

Within the BED group, more favorable attitudes towards obese persons were associated with higher levels of self-esteem and lower depression scores. This finding, which we did not observe within the OB group, is consistent with the findings reported within an obese group by Friedman et al. (47). It is possible that favorable attitudes may help to protect a positive self-image from negative weight-based stereotypes, or may buffer against additional emotional distress related to binge-eating.

There are several limitations of this study. First, data obtained in the OB group relied primarily on self-report, including the weight and height data used to calculate BMI. Although there is a general tendency to underestimate weight and to overestimate height, these self-report inaccuracies are modest and self-reported weight and height data are generally correlated above 0.90 (48). We also note that the self-report measures used have all received psychometric support and are reasonably well-validated. Second, our study focused on women and it is not known whether the findings will generalize to obese men, with or without binge eating patterns. For example, studies have reported gender differences in the psychological correlates of internalized shame in obese patients with BED (49). Future studies should examine these attitudes and beliefs in obese men with and without comorbid BED. Third, although no differences were observed in attitudes and beliefs about obese persons across the racial subgroups of women in the BED group, future research should examine whether potential differences exist in larger racially diverse samples. Fourth, while the present study did not utilize a lean comparison group, it has already been established in many studies that differences in attitudes toward obese persons exist between lean and obese individuals (6, 50–52). In addition, although the two samples in the present study were matched on key variables of interest, the samples came from different populations and therefore the findings must be interpreted with consideration of this potential limitation. Finally, the cross-sectional nature of this study prevents any discussion about possible causal relationships between attitudes about obese persons and body weight, emotional functioning, and eating disorder psychopathology.

With these study limitations in mind, we cautiously offer several potential implications of our findings for stigma reduction efforts and clinical practice. The presence of weight bias among obese persons suggests the need for stigma-reduction interventions to target all individuals, including obese persons. Interventions may need to be tailored in ways that address potential internalization of weight bias among obese individuals. Given that negative attitudes are present in obese persons who are attempting to lose weight and those who are struggling with binge eating, health care providers should be aware of potential weight bias among their patients, and may want to address these attitudes (and internalization of weight-based stereotypes) as components of treatment for weight modification and binge eating disorder.

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TABLE 1

Descriptive statistics for primary variables in the OB and BED study groups.

	OB women (N=50)	BED women (N=50)	ANOVAs		
	Mean (SD)	Mean (SD)	df	F	p
BMI (kg/m^2)	39.42 (7.60)	38.75 (6.49)	98	0.23	0.63
Age (yr)	43.55 (7.06)	43.48 (12.02)	98	0.01	0.97
ATOP	60.00 (15.48)	59.62 (19.93)	98	0.01	0.92
BAOP	18.18 (8.29)	16.64 (7.66)	98	0.93	0.34
BDI	15.53 (12.21)	16.35 (11.33)	87	0.1	0.75
RSQ	30.51 (7.92)	28.82 (7.22)	87	1.11	0.29

BMI: body mass index; ATOP: Attitudes Toward Obese Persons scale; BAOP: Beliefs About Obese Persons scale; BDI: Beck Depression Inventory; RSQ: Rosenberg Self-Esteem Questionnaire; ANOVAs: analyses of variance. All effect sizes were small and non-significant, and are therefore excluded from the table.

TABLE 2

Bivariate correlations among attitudes (ATOP) and beliefs (BAOP) about obesity, psychological functioning, and eating disorder features within the OB and BED groups.

	OB group (N=50)		BED group (N=50)	
Measures	**ATOP**	**BAOP**	**ATOP**	**BAOP**
Self -esteem (RSQ)	0.21	−0.09	0.40**	0.23
Depression (BDI)	−0.07	0.11	−0.36*	−0.26
Eating Disorder Examination (EDE)				
Restraint	--	--	−0.09	−0.21
Eating concerns	--	--	0.03	0.16
Weight concerns	--	--	−0.19	0.08
Shape concerns	--	--	−0.23	−0.08
Binge frequency (OBE)	--	--	−0.28	0.01

* p<0.05;

** p<0.01.