The importance of body image concerns in overweight and normal weight individuals with binge eating disorder

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ABSTRACT

Body image concerns in binge eating disorder (BED) have been examined almost exclusively in overweight individuals with BED. The current study extends past research by including overweight and normal weight BED and non-BED groups to assess the multifactorial construct of body image using subscales of the Eating Disorder Examination 16.0 (EDE-16.0) and a Body Comparison Task. Independent of weight status and when controlling for age and race, women with BED are distinguished from those without BED by significantly greater overvaluation of shape and weight on the EDE-16.0 and significantly reduced weight satisfaction after a Body Comparison Task. Both BED diagnosis and weight status were independently associated with Weight Concern and Shape Concern subscales on the EDE-16.0. Taken together, these data provide further support for the consideration of body image concerns in the diagnostic criteria for BED.

1. Introduction

Binge eating disorder (BED) is found in 2–3.5% of individuals worldwide (Kessler et al., 2013). BED involves repeated objective overeating with a sense of loss of control. Likely due to the association between regular binge eating and weight gain over time (Fairburn, Cooper, Dool, Norman, & O'Connor, 2000), individuals with BED tend to be overweight, making it challenging to determine whether body image concerns are a feature of the psychology of BED or a function of overweight status. In the current Diagnostic and Statistical Manual for Mental Disorders-5 (DSM-5; American Psychiatric Association [APA], 2013), the diagnosis of BED does not include a criterion regarding body image concerns (Ahrberg, Trojca, Nasrawi, & Vocks, 2011). This is in contrast to the diagnostic criteria for both anorexia nervosa (AN) and bulimia nervosa (BN), which include a requirement for individuals to place excess value on their perceived shape and weight when considering their overall self-concept, i.e., overvaluation of shape and weight (Mond & Hay, 2011).

Although not included in DSM-5 (APA, 2013) diagnostic criterion, body image concerns are clearly relevant for individuals with BED. Studies using self-report and interview measures have shown that overvaluation of shape and weight reliably distinguishes overweight individuals with and without BED (Goldschmidt et al., 2010; Grilo, Masheb, & White, 2010; Grilo et al., 2009; Grilo, White, Gueorguieva, Wilson, & Masheb, 2013; Harrison, Mond, Rieger, Hay, & Rodgers, 2015). In BED, overvaluation of shape and weight is strongly related to severity of eating disorder (ED) psychopathology and depressive symptomatology and is also predictive of poor treatment response (Grilo, Ivezaj, & White, 2015; Grilo et al., 2013; Hilbert, Tuschen-Caffier, & Vogele, 2002).

Overvaluation of shape and weight is one way to assess the multifactorial construct of body image concerns, and is related to, but distinct from, body dissatisfaction. Overvaluation of shape and weight refers to a stable influence of shape and weight on one’s self-concept. In comparison, body dissatisfaction refers to negative attitudes, judgments and evaluations of one’s body that tend to vary based on mood or shape or weight changes (Cash, Counts, & Huffine, 1990; Mond & Hay, 2011). Body dissatisfaction affects up to 63% of women (Frederick, Peplau, & Lever, 2006), and self-report studies show that overweight women exhibit elevated levels of body dissatisfaction compared to normal weight women (Annis, Cash, & Hrabosky, 2004; Hill & Williams, 1998; Neighbors & Sobal, 2007; Weinberger, Kersting, Riedel-Heller, & Luck-Sikorski, 2016). Individuals with BED may also experience greater body dissatisfaction than individuals without BED (Eldredge & Stewart, 1996; Svaldi, Caffier, Blechert, & Tuschen-Caffier, 2009), though findings are not consistent (Fichter, Quadflieg, & Brandl, 1993).

In addition to self-report measures, body image concerns have also been explored using body comparison paradigms. Compari-
son to slender bodies results in greater self-defeating perceptions of one’s body (Coring, Krumm, & Smitham, 2006) when compared to images of average-size models, plus-size models, and inanimate objects (Groesz, Levine, & Murnen, 2002), especially among women with elevated ED symptoms. During a body exposure task, overweight women with BED expressed a comparable frequency of negative cognitions about their shape and weight as normal weight women with BN and significantly more negative cognitions than normal weight non-BED women (Hilbert & Tuschen-Caffier, 2005), suggesting an effect of ED pathology independent of weight.

To date, the examination of body image concerns in BED has occurred almost exclusively in overweight groups. To our knowledge, only one study has taken into account different weight categories among BED; results of this study indicated that a normal weight BED group had significantly lower weight concerns relative to a very obese BED group (Dingemans & van Furth, 2012). Thus, the current study aims to disentangle the contributions of BED diagnostic status and weight status on overvaluation of shape and weight, shape and weight concerns more generally, and weight dissatisfaction following a Body Comparison Task in a sample of overweight and normal weight BED and non-BED groups.

As overvaluation of shape and weight distinguishes BED from non-BED (Grilo et al., 2008), we hypothesized that (a) the BED group would report significantly greater overvaluation of shape and weight relative to the non-BED group. We also hypothesized that (b) overweight women with BED would report the greatest weight and shape concerns, followed by (in order) normal weight women with BED, overweight women without BED, and normal weight women without BED. Finally, we hypothesized that (c) women in BED groups would show greater decreases in weight satisfaction in response to the Body Comparison Task relative to women in the non-BED groups.

2. Method

2.1. Participants

Female participants were recruited into one of four groups: overweight BED, overweight non-BED, normal weight BED and normal weight non-BED. For the purposes of categorizing individuals within the current study, body mass index (BMI) guidelines from the World Health Organization (WHO, 1995) were used to classify participants as overweight (BMI ≥ 25.0) or normal weight (BMI between 18.5 and 24.9). It should be noted that BMI is not indicative of levels of body fat (WHO, 1995) and is imperfect at categorizing diverse samples. However, information on BMI is easy to collect and calculate and is an anthropometric measurement that is common among large, population based survey datasets (e.g., the Behavioral Risk Factor Surveillance System, WHO Mental Health Surveys).

One hundred and eighty-nine BED and non-BED participants were invited to participate in the current study from ongoing studies within the laboratory. General study recruitment involved online advertisements and flyer advertisements in the community. Advertisements for BED and non-BED were identical with the exception of the question “Do you binge eat?” on advertisements targeting BED participants. Recruitment yielded a total of 1445 telephone screens to determine preliminary eligibility. Of the 189 potential participants invited to participate in the current study, 32 participants were excluded due to meeting criteria for an eating disorder other than BED or endorsement of binge eating that did not meet DSM-5 BED criteria (APA, 2013). Of the remaining participants, 59 were not interested or did not respond.

The final sample consisted of 30 overweight women with BED, 28 overweight non-BED women, 21 normal weight women with BED, and 19 normal weight non-BED women. Previous research suggests that the effect size for overvaluation of shape and weight, shape concern, and weight concern are large for comparisons between BED and non-BED groups (Grilo et al., 2008). Power analyses conducted using GPower (Faul, Erdfelder, Lang, & Buchner, 2007) revealed that a total sample size of 68, i.e., 17 per group (power = .90 for f = .40, given α = .05), was sufficient to detect a large effect size for each outcome measure.

The mean age of participants was 31.10 years and the sample was predominately non-Hispanic/Latino (96.9%). Nearly half of the sample self-identified as Caucasian (n = 48: 49.0%), followed by African American (n = 39: 39.8%), Asian (n = 8: 8.2%) and Hispanic (n = 3, 3.1%). See Table 1 for a summary of demographic information.

2.2. Procedure

The present study was reviewed and approved by the university institutional review board and took place over two separate testing sessions as part of a larger study. The two testing sessions were conducted within four weeks of one another. After screening for eligibility and obtaining consent, participants completed an online battery of self-report questionnaires. In the first session, eating pathology, mood, and personality disorders were assessed by doctoral-level clinicians using the measures described below. Diagnoses were confirmed at a weekly best-estimate meeting with a licensed clinical psychologist (Klein, Ouimette, Kelly, Ferro, & Riso, 1994; Kosten & Rounsaville, 1992). Height and weight were measured to calculate BMI. During the second session, participants completed a 10-min Body Comparison Task administered by doctoral-level clinicians.

2.3. Measures

2.3.1. Demographic data survey. An abbreviated version of the Demographic Data Scale (DDS; Linehan, 1982), a self-report questionnaire, was used to collect demographic information, such as age and sex.

2.3.2. Psychiatric disorders. The Structured Clinical Interview for the DSM IV-Text Revision (DSM-IV-TR) Axis-I disorders (SCID-I; First, Spitzer, Gibbon, & Williams, 2002) was conducted with all participants by a team of doctoral-level clinicians.

2.3.3. Eating Disorder Examination-16.0. The EDE-16.0 (Fairburn, Cooper, & O’Connor, 2008) is an interviewer based, semi-structured interview that assesses behavioral features of

Table 1

<table>
<thead>
<tr>
<th>Description</th>
<th>Overweight BED (n=30)</th>
<th>Normal weight BED (n=21)</th>
<th>Overweight non-BED (n=28)</th>
<th>Normal weight non-BED (n=19)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caucasian</td>
<td>% 33.30</td>
<td>66.70%</td>
<td>32.10%</td>
<td>78.90%</td>
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<tr>
<td>African American</td>
<td>% 63.30</td>
<td>9.50%</td>
<td>64.30%</td>
<td>0%</td>
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<tr>
<td>Asian</td>
<td>% 0%</td>
<td>23.80%</td>
<td>0%</td>
<td>15.80%</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>% 3.30</td>
<td>0%</td>
<td>3.60%</td>
<td>5.30%</td>
</tr>
<tr>
<td>Age</td>
<td>M (SD) 36.98 (11.36)</td>
<td>23.14 (3.37)</td>
<td>36.11 (12.54)</td>
<td>23.19 (7.39)</td>
</tr>
<tr>
<td>BMI</td>
<td>M (SD) 33.99 (5.37)</td>
<td>22.67 (1.82)</td>
<td>30.28 (4.01)</td>
<td>21.51 (1.93)</td>
</tr>
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