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Emotion regulation difficulties in binge eating disorder with and without the overvaluation of weight and shape

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ABSTRACT

The objective of this study was to examine the relationship between overvaluation of weight/shape ('overvaluation') and emotion regulation (ER) difficulties among women with binge eating disorder (BED) symptoms. Four groups of women were recruited from a community-based sample and compared on ER difficulties: individuals with probable BED with (n=102) and without (n=72) overvaluation, and non-binge eating obese (n=40) and healthy-weight (n=40) control participants. Data for patients with a formal diagnosis of BED receiving treatment from a previous study were included for numerical comparative purposes. Women with probable BED and overvaluation reported significantly greater ER difficulties than all other groups and had similar levels of ER difficulties to BED patients. Women with probable BED in the absence of overvaluation were comparable to the obese control group on total ER difficulties and the majority of the ER difficulties subscales. The findings provide further evidence for the clinical significance of overvaluation among individuals with BED symptomatology. BED in the absence of overvaluation does not appear to align with current models of the disorder in which ER difficulties are viewed as a core etiological mechanism. Further research is needed to elucidate the status of this presentation.

1. Introduction

The diagnosis of binge eating disorder (BED) stands apart from other major eating disorders in the *Diagnostic and Statistical Manual for Mental Disorders* (DSM), insofar that it does not include a criterion related to body image disturbance (American Psychiatric Association, 2013; Grilo, 2013). In fact, the lack of a cognitive criterion related to body image was carried forward from the DSM-IV to the DSM-5 despite increasing evidence that body image disturbance is prevalent and predictive of impairment among individuals with BED. Specifically, there is no reference to the undue influence of body weight and/or shape in determining self-evaluation ('overvaluation') among the diagnostic criteria for BED, despite the fact that this is a criterion for both anorexia nervosa and bulimia nervosa (American Psychiatric Association, 2013), and despite the fact that overvaluation is seen as a core feature common to all eating disorder (ED) pathology in prominent theoretical models of this pathology (Fairburn et al., 2003).

Research in a broad range of study populations has found strong evidence that the presence of overvaluation among individuals with BED indicates a more severe presentation in terms of ED psychopathology, general psychopathology and impairment in psychosocial functioning (Goldschmidt et al., 2010; Grilo et al., 2015a, 2015b, 2010; Harrison et al., 2015, 2014; Mond et al., 2007a). Recommendations to alter existing criteria on the basis of these findings have varied, with some researchers suggesting that overvaluation be included as a diagnostic criterion (Harrison et al., 2014, 2015; Mond et al., 2007a), and others suggesting that overvaluation would best be included as a diagnostic specifier (Goldschmidt et al., 2010; Grilo, 2013; Grilo et al., 2010). With evidence suggesting that approximately 60% of individuals with BED and subthreshold variants of this disorder experience overvaluation of weight and/or shape (Grilo et al., 2015b), including overvaluation as a diagnostic criterion would likely result in a substantial reduction in the population prevalence of BED, while also confining this diagnosis to a more severe presentation, whereas including

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overvaluation as a diagnostic specifier would not have an impact on BED prevalence estimates (American Psychiatric Association, 2013; Fairburn et al., 2003; Grilo et al., 2015a, 2015b).

To further inform the status of BED with and without overvaluation, research addressing other aspects of ED pathology potentially relevant in terms of this distinction may be instructive. Emotion regulation (ER) difficulties have also been identified as a core maintenance mechanism in BED, in line with dominant affect regulation models of ED pathology (Polivy and Herman, 1993; Leehr et al., 2015). While models differ on the mechanisms believed to be involved in the regulation of emotion, negative emotion is a commonly reported precipitant of binge eating (Polivy and Herman, 1993; Leehr et al., 2015) and it has been suggested that individuals engage in binge eating as an ER strategy, likely due to a lack of more adaptive ER strategies (Hilbert and Tuschen-Caffier, 2007; Whiteside et al., 2007; Leehr et al., 2015). Binge eating may be conducive to a down-regulation of negative emotion, either during or immediately following the binge-eating episode (Deaver et al., 2003). Indeed a lack of adaptive ER strategies is a feature that differentiates individuals with BED from individuals who are obese but who do not have BED (Leehr et al., 2015). Thus, ER difficulties have been incorporated in prominent theoretical accounts of the maintenance of ED behavior, such as the transdiagnostic model, in which mood intolerance is a key maintaining factor, however it's relationship to overvaluation outside of dietary restraint remains unclear (Fairburn et al., 2003; Fairburn, 2008).

The present study sought to determine the potential role of ER difficulties in elucidating the clinical status of BED with and without overvaluation. ER difficulties were compared between four groups: individuals with probable BED and overvaluation; individuals with probable BED in the absence of overvaluation; obese individuals who do not have episodes of binge eating ("obese controls"); and healthy-weight individuals who do not have binge eating episodes ("healthy-weight controls"). Consistent with our previous research (Harrison et al., 2014; Mond et al., 2007a), and in order to maximize the generalizability of the findings to the total population of individuals with BED symptoms, participants were recruited from a community-based, rather than a treatment-seeking sample (Mond et al., 2009, 2007b). Further, in order to permit comparison of findings derived from community-based and clinical samples, ER data from individuals with a formal diagnosis of BED receiving mental health care treatment, derived from a previous study (Svaldi et al., 2012), are presented alongside those of the current study participants. Given that the presence of overvaluation indicates a more severe presentation among individuals with BED and sub-threshold variants of BED (Goldschmidt et al., 2010; Grilo et al., 2010; Harrison et al., 2014), and given that ER difficulties are associated with more severe ED pathology (Svaldi et al., 2012), it was hypothesized that individuals with probable BED and overvaluation would have significantly greater ER difficulties than participants in each of the other groups – probable BED without overvaluation, obese controls and healthy-weight controls. There were no other *a priori* hypotheses.

2. Method

2.1. Study design and recruitment of participants

Participants were recruited from two main sources, namely: (i) the websites and social media channels of non-Government organizations that have an interest in women's eating and/or weight-related health problems; and ii) Australian newspapers within the Australian Capital Territory and the two largest Australian states of New South Wales and Victoria. The recruitment procedures have been detailed previously (Harrison et al., 2015). The online survey, which utilized the Qualtrics survey software package, was anonymous and took approximately 30 min to complete. It included measures of ED symptomatology, ER difficulties, and socio-demographic characteristics. All participants were offered the chance to enter into a draw to win one of three AUS$100 gift vouchers. The study was approved by the Australian National University Human Research Ethics Committee (2013/027).

Of $N=748$ surveys that were initiated, data for $n=122$ participants who had unacceptably high levels of missing data (failure to complete all or most items of one or more of the key study measures) were excluded. Among the remaining $N=626$ women, missing data was minimal ($<0.01\%$ for all variables) and no significant demographic differences from the excluded participants were observed (see below; all $p>0.05$), with the exception that excluded participants were significantly older than study participants ($t_{(746)}=3.25$, $p<0.05$). $N=254$ participants from this pool of 626 participants were included in the current study, based on their fit with selection criteria for the different study subgroups as outlined below.

2.2. Measures

2.2.1. Demographic characteristics

Demographic characteristics assessed included: age; first language (English, not English); country of birth (Australia, not Australia); possession of private health insurance (no, yes); and residential post-code. Based on participants' residential postal-code, Socio-Economic Indexes for Areas (SEIFA) decile were determined. SEIFA is a measure developed by the Australian Bureau of Statistics (Australian Bureau of Statistics, 2013a, 2013b) where residential areas are assigned an index indicating relative socioeconomic advantage/disadvantage for that area. Indices are then ranked and areas of residency allocated a decile allowing comparison across Australia. Body mass index (BMI, kg/m^2) was derived from participants' self-reported height and weight (Mond et al., 2004).

2.2.2. Eating Disorder Examination Questionnaire (EDE-Q)

The EDE-Q is a 36-item self-report measure of ED pathology that focuses on the past 28 days (Fairburn and Beglin, 2008, 1994). It consists of 22 items assessing core attitudinal ED features, namely, concerns about dietary restraint, concerns about eating behaviors and concerns about weight or shape (including overvaluation of weight/shape, see more detail below under "Creation of Study Groups"). Scores on these items range from "0" to "6", with higher scores indicating higher symptom levels. A global score, taken to indicate overall levels of ED pathology, may be derived as the average of these items (Mond et al., 2006a). Remaining items of the EDE-Q assess the occurrence and frequency of specific ED behaviors over the previous 28-day period, namely, binge eating, purging (self-induced vomiting and/or laxative misuse), and excessive exercise. Since the assessment of extreme dietary restriction is not included among these items, an item from the Dietary Restraint subscale, namely, "On how many days (in the past 28 days) have you gone for long periods of time (i.e., 8 or more waking hours) without eating anything at all in order to influence your shape or weight?", was used for this purpose (Mond et al., 2006b). In order to differentiate between objective and subjective binge eating, as utilized in previous research, (Harrison, et al., 2015) an additional question measuring subjective binge eating was included, namely, "On how many days in the past 28 days have there been times when you ate what other people would think was a normal or small amount of food given the situation AND felt like you had lost control of your eating at the time? ". The items comprising the EDE-Q global score have been found to have