



# Examining the role of distress tolerance and negative urgency in binge eating behavior among women<sup>☆</sup>



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## ABSTRACT

The current study examined whether distress tolerance and negative urgency moderate the link between depressive symptoms and binge eating frequency, and between disordered eating attitudes and binge eating frequency. Young adult women ( $N = 186$ ) completed questionnaires assessing depressive symptoms, cognitive restraint, eating, shape and weight concerns, distress tolerance, impulsivity (including negative urgency), and binge eating. After controlling for body mass index, race/ethnicity, and other domains of impulsivity, negative urgency was significantly associated with binge eating above and beyond the influence of disordered eating attitudes and depressive symptoms. Distress tolerance, in contrast, was not associated with binge eating. In addition, neither negative urgency nor distress tolerance moderated the associations between disordered eating attitudes and binge eating frequency, or between depressive symptoms and binge eating. Results support the additive role of difficulties responding adaptively to distress in binge eating frequency, above and beyond the influence of emotional distress. Findings highlight the potential value of focusing on negative urgency in targeted treatments for binge eating among women. Importantly, results from the current study differ from those of previous research; these discrepancies could be the result of variations in sample characteristics and approaches to the assessment of binge eating behavior. Additional research, including longitudinal studies and research using “real-time” assessment strategies, such as ecological momentary assessment, is necessary to elucidate further the role of various emotion regulation strategies in maintaining binge eating behavior in adult women.

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## 1. Introduction

Given its pervasiveness and serious physical and psychosocial comorbidities, binge eating is a significant public health concern. Over a third of women in college and community samples report engaging in this disordered eating behavior (Piran & Robinson, 2011; Saules et al., 2009). The actual proportion of women who binge eat might be even higher, as most studies only assess objective binge episodes (OBEs), or the consumption of an abnormally large amount of food accompanied by a sense of loss of control (American Psychiatric Association, 2000). Previous studies have yielded the recommendation that researchers examine both objective and subjective (i.e., consumption of a normal

amount of food) binge episodes (SBEs) as the sense of loss of control present in both types of binges, rather than the amount of food consumed, is most strongly linked to comorbid psychopathology (Latner, Hildebrandt, Rosewall, Chisholm, & Hayashi, 2007).

Most theoretical conceptualizations of binge eating in the absence of regular compensatory behavior are grounded in models of emotion regulation (see Haedt-Matt & Keel, 2011 for a review). One such model, the escape theory (Heatherton & Baumeister, 1991), posits that binge eating serves as a mechanism through which individuals attempt to avoid uncomfortable emotional states. Specifically, food provides a concrete and palatable distraction from emotional distress and body image concerns. Indeed, several studies indicate that body dissatisfaction and depressive symptoms are associated with binge eating (see Araujo, Santos, & Nardi, 2010 for a review; Gordon, Holm-Denoma, Troop-Gordon, & Sand, 2012; Meno, Hannum, Espelage, & Douglas Low, 2008), as well as the urge to binge eat (Svaldi, Caffier, Blechert, & Tuschen-Caffier, 2009). Further, data from cross-sectional studies (Mitchell & Mazzeo, 2004; Napolitano & Himes, 2011) and ecological momentary assessment methods suggest that increases in psychological distress and disordered eating attitudes, including depressive symptoms, negative

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affect (i.e., anger, worry, guilt, tension), drive for thinness, weight concerns and cognitive restraint, precede binge eating episodes and are associated with a greater likelihood of same day binges (Barker, Williams, & Galambos, 2006; Freeman & Gil, 2004; Munsch, Meyer, Quartier, & Wilhelm, 2012). A number of prospective studies also found that depressive symptoms and disordered eating attitudes predict the onset of and increases in binge eating (Dobmeyer & Stein, 2003; Gilbert & Meyer, 2005; Presnell, Stice, Seidel, & Madeley, 2009; Skinner, Haines, Austin, & Field, 2012; Spoor et al., 2006; Stice, Burton, & Shaw, 2004; Stice, Presnell, & Spangler, 2002; Wertheim, Koerner, & Paxton, 2001).

However, depressive symptoms and disordered eating cognitions alone do not fully explain the onset or maintenance of binge eating behavior (Presnell et al., 2009). Many individuals experience significant emotional distress, as well as concerns about their eating, shape and weight, and do not binge eat. To facilitate a more comprehensive conceptualization of binge eating, researchers have attempted to identify factors that moderate the associations among depressive symptoms, disordered eating attitudes, and this specific disordered eating behavior. For example, the use of particular emotional coping strategies, such as rumination, avoidance, brooding, and distraction, might increase some women's risk for binge eating (Engler, Crowther, Dalton, & Sanftner, 2006; Freeman & Gil, 2004; Gordon et al., 2012; Nolen-Hoeksema, Stice, Wade, & Bohon, 2007). Adaptive coping strategies (e.g., refocus on planning, positive reappraisal), in turn, are associated with lower levels of binge eating behavior (Kelly, Lydecker, & Mazzeo, 2012). General difficulties with emotion regulation also moderate the link between psychological distress and binge eating among Black women who are trauma survivors (Harrington, Crowther, & Shipherd, 2010).

Emotional impulsivity and poor distress tolerance also appear to increase binge eating risk. According to Heatherton and Baumeister's (1991) escape theory, binge eating occurs after individuals shift their attention away from themselves and the distress they are experiencing and towards food. This reduction in self-awareness or "cognitive narrowing," is thought to facilitate binge eating through the removal of inhibitions, thereby allowing individuals to avoid thinking about the long-term implications of their behavior and to focus instead on its short-term benefits. Based on this theory, individuals with difficulties tolerating negative affect and/or a propensity to respond to these emotions impulsively might also be more likely to binge eat. Indeed, negative urgency, or the tendency to act impulsively when distressed, has been linked to increases in binge eating among women in most, but not all (Peterson & Fischer, 2012), longitudinal (Fischer, Peterson, & McCarthy, 2013; Pearson, Combs, Zapolski, & Smith, 2012) and cross-sectional studies (Anestis, Selby, Fink, & Joiner, 2007; Carrard, Crépin, Ceschi, Golay, & Van der Linden, 2012; Fischer, Anderson, & Smith, 2004; Fischer, Settles, Collins, Gunn, & Smith, 2012; Fischer, Smith, & Cyders, 2008; Kelly, Bulik, & Mazzeo, 2013). General difficulties tolerating distress have also been linked to increases in binge eating behavior (Corstorphine, Mountford, Tomlinson, Waller, & Meyer, 2007) beyond the influence of depressive symptoms, anxiety, general negative affect, and disordered eating attitudes (Anestis et al.).

While research provides preliminary support for correlational associations among depressive symptoms, disordered eating attitudes, distress tolerance, negative urgency, and binge eating, the means by which these variables interact with one another are less well understood. Distress tolerance and negative urgency are conceptually similar terms that describe different cognitive, emotional and behavioral processes. Distress tolerance refers to the perceived ability to experience and accept negative affect (Simons & Gaher, 2005), while negative urgency explains a behavioral response pattern to these feelings (Whiteside & Lynam, 2001). As such, both negative urgency and distress tolerance could theoretically serve as independent and interacting moderators in the link between depressive symptoms and binge eating, and between disordered eating attitudes, and binge eating. If someone, for instance, has a hard time enduring negative emotional states and

tends to respond to negative emotions impulsively, he or she may be particularly susceptible to disinhibited eating behavior. Indeed, one examination of these constructs suggests that negative urgency and distress tolerance interact with one another to increase risk for bulimic symptoms (Anestis et al., 2007). Specifically, after controlling for depressive symptoms, anxiety, negative affect, disordered eating attitudes, lack of premeditation, lack of perseverance, and sensation seeking behavior, individuals with higher distress tolerance difficulties and a tendency to act impulsively when confronted with negative affect were more likely to engage in binge and purge behaviors. These findings suggest that difficulties tolerating and responding adaptively to distress might moderate the link between psychological distress and binge eating. However, it is unclear if these associations apply to individuals who engage in both SBEs and OBEs in the absence of regular compensatory behavior.

Research investigating multivariate models including distress tolerance and negative urgency is needed to enhance the explanatory power of current theories of binge eating in the absence of compensatory behavior (Presnell et al., 2009). Impulsivity is also one of the most powerful predictors of treatment drop out among individuals with eating disorders (Fassino, Piero, Tomba, & Abbate-Daga, 2009), and thus represents a particularly concerning correlate of binge eating in need of additional empirical attention. Research is also needed to address factors limiting the external validity of previous investigations. Specifically, most studies included samples of primarily White women who engaged exclusively in OBEs. However, women from a range of racial/ethnic backgrounds engage in and are distressed by binge eating (Azarbad, Corsica, Hall, & Hood, 2010; Johnson, Rohan, & Kirk, 2002), regardless of the amount of food consumed during these binges (Latner et al., 2007).

Thus, the purpose of the current study was to extend understanding of negative urgency and distress tolerance in the context of SBEs and OBEs in the absence of regular compensatory behaviors among a large and racially/ethnically diverse sample of women. The primary aim was to examine whether distress tolerance and negative urgency (independently and jointly) moderate the link between binge eating and depressive symptoms, and between binge eating and disordered eating attitudes (i.e., cognitive restraint and eating, shape and weight concerns) after controlling for race/ethnicity, body mass index (BMI), and other domains of impulsivity. Other domains of impulsivity were used as covariates to facilitate comparisons across studies and to provide a more sensitive statistical examination of the association between binge eating and emotional impulsivity (versus general impulsive tendencies). Moderation analyses were selected based on previous research, which indicates that negative urgency and distress tolerance might not fully account for the links between depressive symptoms/disordered eating attitudes and binge eating frequency, but they might exacerbate these associations (Anestis et al., 2007).

## 2. Methods

### 2.1. Participants and procedures

Participants ( $N = 186$ ; 53.3% White, 21.7% Black, 13.0% Asian/Asian American; 4.3% Hispanic, 7.6% other) were undergraduate women (ages 18 to 25;  $M$  age =  $19.24 \pm 1.52$ ,  $M$  BMI =  $24.38 \pm 4.57$ ) who reported engaging in any binge eating behavior in the last 28 days. Women were recruited from psychology classes at a large public university in the southeastern United States. Participants were excluded if they denied engaging in any binge eating behavior in the last 28 days, if they reported engaging in regular ( $\geq 3$  times/week) compensatory behaviors (i.e., purging, laxative or diuretic misuse, excessive exercise), or if their BMI was below 18.5. Prior to completing questionnaires, informed consent procedures were conducted in accordance with the local Institutional Review Board (IRB). All participants completed self-report questionnaires for course credit using an online database. Questionnaires

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