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Examining the role of negative urgency in a predictive model of bulimic symptoms

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ABSTRACT

The etiological dual pathway model of bulimia nervosa suggests that dietary restraint and negative affect are significant predictors of this disorder. Negative urgency, or the tendency to act rashly in response to negative emotionality, is also associated with bulimia nervosa; however, no study has examined the role of negative urgency within the context of the dual pathway model. The purpose of this study was to investigate the relationship between bulimic symptomatology and negative urgency in the context of dietary restraint and depressive affect. Participants ($N = 166$) were college women recruited from a private mid-western university through an online participant registry. A self-report battery assessed depressive affect, dietary restraint, negative urgency, and bulimic symptoms. Participants' height and weight were measured in-person to determine body mass index. A significant main effect of negative urgency was found after controlling for depressive affect and dietary restraint. The interaction between depressive affect and negative urgency to predict bulimic symptoms approached significance; however, no statistically significant interaction between dietary restraint and negative urgency was observed. These results provide support for the inclusion of negative urgency as a significant factor in etiological frameworks of bulimia nervosa.

1. Introduction

Bulimia Nervosa (BN), an eating disorder primarily affecting young women, is characterized by the presence of recurrent binge-eating episodes and inappropriate compensatory behaviors in order to avoid weight gain. The disorder is a growing public health concern due to its prevalence and deleterious effects (American Psychiatric Association [APA], 2013). Most individuals with BN maintain a normal body weight, are discreet about binging and compensatory behaviors, and do not actively seek treatment, making BN difficult to identify and treat (APA, 2013). Moreover, approximately one-third of women who undergo treatment subsequently relapse (Herzog et al., 1999; Keel & Mitchell, 1997). Therefore, it is imperative to identify etiological and maintenance factors of BN to improve conceptualization, prevention, and treatment efforts.

The dual pathway model proposed by Stice and Agras (1998) is one of the most widely accepted etiological models of BN. While several risk factors are included, the model proposes that bulimic symptoms stem mainly from (1) negative affect and (2) dietary restraint (See Fig. 1). The negative affect pathway stems from escape theory, which suggests that binge eating may serve as a mechanism by which to escape unpleasant feelings or regulate mood (e.g., Hawkins & Clement, 1984; Heatherton & Baumeister, 1991; McCarthy, 1990). Over time, binge eating is negatively reinforced and this pattern may contribute to the development of BN. Prospective tests of the negative affect pathway within the context of the dual pathway model have concluded that negative affect mediates the relationship between body dissatisfaction and bulimic symptoms (e.g., Stice, 2001). A meta-analytic review of longitudinal studies indicated that initial self-reported negative affect contributed a small but significant amount to the maintenance and development of bulimic symptoms (Stice, 2002). Finally, results from the National Comorbidity Survey Replication Study suggested that of those who met criteria for BN, 71% also met criteria for a mood disorder and 81% met criteria for an anxiety disorder, suggesting a link between negative affect and bulimic symptoms (Hudson, Hiripi, Pope, & Kessler, 2007). Despite this association, individuals meeting criteria for a mood or anxiety disorder would not be generally expected to have a comorbid eating disorder, suggesting that not all individuals experiencing negative affect develop BN. Rather, it is likely that the association between negative affect and bulimic symptoms may depend on individual difference variables that moderate the relationship (e.g., dietary restraint; Baucom & Aiken, 1981; Stice, Akutagawa, Gaggar, & Agras, 2000).

The dietary restraint pathway is supported by the observation that dietary restriction may precede binge eating as it is more likely for individuals to be first diagnosed with restrictive forms of disordered eating before crossing over to disorders characterized by binging (Eddy et al., 2002; Fichter & Quadflieg, 1997; Keel & Mitchell, 1997). Further, a

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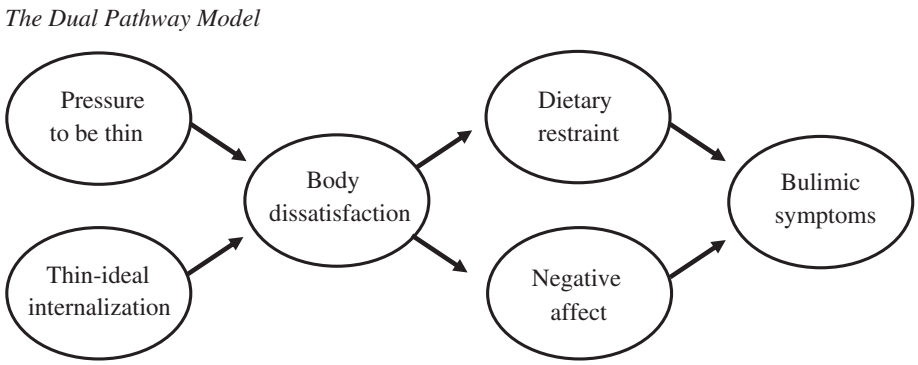

Fig. 1. The dual pathway model of bulimia nervosa demonstrating pathways from dietary restraint and negative affect. Reproduced with permission of the original author (Stice, 2001).

meta-analysis of longitudinal self-report studies indicated that dietary restraint is a risk factor for developing bulimic symptoms; however, some inconsistent findings were noted (Stice, 2002). Other studies have also raised questions about the significance of dietary restraint within the model (e.g., Powell, Calvin, & Calvin, 2007; Shapiro et al., 2007; van Strien, Engles, van Leeuwe, & Snoek, 2005). Therefore, while there appears to be a link between dietary restraint and bulimic symptoms, inconsistent associations suggest that there may be conditions or mechanisms that modify this relationship. Taken together, sufficent evidence has established the validity of the dual pathway model; however, the model does not fully explain the development of BN and additional factors that potentially contribute to the development of BN remain to be examined.

1.1. Impulsivity

While the dual pathway model accounts for approximately 23% of the variance in the onset of bulimic symptoms (Stice, 2001), a noted weakness of the model is the absence of other associated risk factors. One such risk factor for BN is impulsivity. Among persons with eating disorders, those who engage in purging behaviors characteristic of BN tend to have the highest levels of trait impulsivity (Lowe & Eldredge, 1993; Waxman, 2009). Moreover, higher levels of impulsivity among those with BN predict poorer treatment outcomes and are associated with maladaptive behaviors including self-injury (Keel & Mitchell, 1997; Svirko & Hawton, 2007). Overall, impulsivity appears to be a significant factor that is related to BN (Stice, 2002). However, the construct of impulsivity has been plagued by the absence of a standard operational definition. Therefore, inconsistent results and small effect sizes may be attributable to the definition and multitude of methods used to assess impulsivity.

Whiteside and Lynam (2001) suggested that impulsivity is best assessed as a multidimensional construct and developed the UPPS Impulsive Behavior Scale. The UPPS is derived from a factor analysis of items from nine commonly used measures of impulsivity and one personality measure in a large sample of undergraduate students. Results identified four factors: negative urgency, (lack of) premeditation, (lack of) perseverance, and sensation seeking. Further research has confirmed that each of these factors is independent rather than a component of a larger single construct (Miller, Flory, Lynam, & Leukefeld, 2003; Whiteside, Lynam, Miller, & Reynolds, 2005). Across studies, the factor from the UPPS most correlated with bulimic symptoms is negative urgency, defined as a tendency to act rashly when experiencing negative emotionality (e.g., Fischer, Smith, & Anderson, 2003; Fischer, Smith, & Cyders, 2008; Miller et al., 2003). Left unanswered is the nature of the association between negative urgency and BN.

One study examined negative urgency as a predictor of bulimic symptoms after controlling for negative affect (Racine et al., 2013). Results showed that negative urgency remained a significant predictor of bulimic symptoms after controlling for negative affect, suggesting that negative urgency plays a role above and beyond that of negative affect in the development and maintenance of bulimic symptoms. However, this study failed to control for dietary restraint, which has been shown to account for a substantial proportion of the variance in bulimic symptoms (e.g., Stice, 2002). While this finding gives preliminary evidence to the unique role of negative urgency, no study has examined negative urgency within the context of the dual pathway model, which incorporates dietary restraint as well as negative affect.

Given that not all women experiencing negative affect exhibit bulimic symptoms, it may be that those women who also tend to act rashly (i.e., score high on negative urgency) are at greatest risk. That is, negative urgency may serve as a moderator of the association between negative affect and bulimic symptoms. Additionally, the association between dietary restraint and bulimic symptoms may depend on negative urgency. Dietary restraint can induce negative affect and lead to disinhibited eating; alternatively, it may precede a healthy weight loss and a reduction in binge eating. Perhaps the association between dietary restraint and bulimic symptoms depends on the extent to which negative urgency is present. That is, when restrained eaters feel a sense of negative urgency, as may occur when fearing a loss of control or exceeding dietary limitations, bulimic symptoms may ensue. Restrained eaters who experience little if any sense of negative urgency would not be expected to engage in bulimic symptoms. Therefore, negative urgency may also moderate the relationship between dietary restraint and bulimic symptoms.

1.2. Present study

The proposed study builds on the dual pathway model of bulimic pathology in order to improve conceptualization of eating disorders, which may improve prevention and treatment efforts. In order to determine the specific role of negative urgency in the model, dietary restraint and depressive affect were included. Additionally, this study examines negative urgency as a possible moderator between each pathway in Stice's model, such that dietary restraint and negative affect may differentially predict bulimic symptoms depending on the level of negative urgency. It was hypothesized that negative urgency would predict bulimic symptoms above and beyond current factors within the dual pathways model. Furthermore, it was hypothesized that the association of negative affect and dietary restraint with bulimic symptoms would each be modified by the presence of negative urgency such that each association would be present only under conditions of high negative urgency.

2. Methods

2.1. Participants

Participants were 166 women aged 18–25 recruited from an undergraduate psychology subject pool at a private Midwestern university.