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Replication and extension of the dual pathway model of disordered eating: The role of fear of negative evaluation, suggestibility, rumination, and self-compassion

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ABSTRACT

Objective: The dual pathway model, a theoretical model of eating disorder development, suggests that thin ideal internalization leads to body dissatisfaction which leads to disordered eating via the dual pathways of negative affect and dietary restraint. While the dual pathway model has been a valuable guide for eating disorder prevention, greater knowledge of characteristics that predict thin ideal internalization is needed.
Method: The present study replicated and extended the dual pathway model by considering the addition of fear of negative evaluation, suggestibility, rumination, and self-compassion in a sample of community women and female university students.
Results: Results showed that fear of negative evaluation and suggestibility predicted thin ideal internalization whereas rumination and self-compassion (inversely) predicted body dissatisfaction. Negative affect was predicted by fear of negative evaluation, rumination, and self-compassion (inversely).
Discussion: The extended model fit the data well in both samples. Analogue and longitudinal study of these constructs is warranted in future research.

1. Introduction

The dual pathway model helps explain eating disorder development by examining the combined effects of sociocultural influences, dietary restraint, and negative affect (Stice, Nemeroff, & Shaw, 1996a). According to the model, internalization of an unrealistic thin ideal promotes the development of body dissatisfaction, which increases the risk for bulimic symptoms via the dual mechanisms of dietary restraint and negative affect. These mechanisms increase the risk of bulimic symptoms because eating may provide comfort and distraction from negative, unwanted emotions, and binge eating can counteract the discomfort of dietary restraint (Stice, 2001).

Several studies have shown support for the dual pathway model (Stice, 2001; Field et al., 2001; Killen et al., 1994; Stice & Agras, 1998; Stice, Shaw, & Nemeroff, 1998; Stice & Whitenton, 2002; Stice, Ziemba, Margolis, & Flick, 1996b; Vander Wal, Gibbons, & Del Pilar Grazioso, 2008). Longitudinally, the dual pathway model accounted for 23% of the variance in growth of bulimic symptoms after controlling for baseline levels of bulimic symptoms (Stice, 2001). Although this is a meaningful proportion of the variance, 77% of the variance remains unexplained. Therefore, the present study examined four proposed additions to the dual pathway model: fear of negative evaluation, suggestibility, rumination, and self-compassion.

1.1. Fear of negative evaluation

A significant addition to the dual pathway model is fear of negative evaluation (FNE), defined as the apprehension that people feel at the prospect of being negatively evaluated by others (Leary, 1983). Three studies have supported a longitudinal association between FNE and disordered eating among female university students. One study found that FNE predicted increases in bulimic symptoms across the course of a semester after controlling for baseline depressive and bulimic symptoms (Hamann, Wonderlich-Tierney, & Vander Wal, 2009). A second study showed that FNE predicted drive for thinness cross-sectionally but changes in bulimic symptoms longitudinally (Gilbert & Meyer, 2005). A third study found that FNE predicted subsequent thin ideal internalization among participants with high but not low body mass indices (BMIs) (DeBoer et al., 2013). Further, FNE predicted subsequent body dissatisfaction and eating disorder symptoms but not dietary restraint or negative affect. The authors speculated that FNE may play an a priori role in symptom development with FNE increasing risk for internalization of the thin ideal (DeBoer et al., 2013).

Given the large degree of support for the role of FNE in the prediction of disordered eating, FNE was investigated as a predictor of thin ideal internalization in the dual pathway model and unlike previous research, tested the role of FNE in a community sample.

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1.2. Suggestibility

Suggestibility is defined as a personality trait that catalyzes an individual's acceptance and internalization of a specific message (Kotov, Bellman, & Watson, 2004). Evidence linking suggestibility to the dual pathway model and its components is lacking. However, related constructs have shown an association with disordered eating. For instance, one study examined the association between Berzonsky's three social-cognitive styles of identity formation and adoption of a body perfect ideal one year later (Verstuyf, Van Petegem, Vansteenkiste, Soenens, & Boone, 2014; Berzonsky, 1990). Adolescents with an information-oriented identity style actively explore and evaluate identity-relevant options in terms of their own goals and values. This style was negatively associated with the adoption of a perfect body ideal (Verstuyf et al., 2014). In contrast, adolescents with a normative style focus a great deal on external identity-relevant information, including extrinsic factors such as fame and appearance (Duriez, Luyckx, Soenens, & Berzonsky, 2012). This identity style was positively associated with a perfect body ideal (Verstuyf et al., 2014). Adolescents with a diffuse-avoidant style of identity formation tend to avoid identity-relevant decisions and vary their behaviors depending on the situation and circumstances (Berzonsky, 1990; Berzonsky & Ferrari, 1996). This style was not significantly associated with the adoption of a perfect body ideal (Verstuyf et al., 2014). The degree to which one is motivated by external sources of information is clearly consistent with the definition of suggestibility. Suggestibility may be an important addition to the dual pathway model. Individuals high in suggestibility may be more readily influenced by sociocultural messages espousing the thin ideal (Davison, Markey, & Birch, 2000; Mask & Blanchard, 2011). Therefore, suggestibility was tested as a precursor to thin ideal internalization.

1.3. Rumination

Rumination is defined as a manner of response to distress that involves habitually focusing on the symptoms of the distress as well as the potential consequences of those symptoms (Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008). Rumination has been examined in conjunction with parts of the dual pathway model. One study found that a ruminative response style predicted body image dissatisfaction (a specific form of body dissatisfaction) (Etu & Gray, 2010). In addition, negative body image thinking, a form of rumination specific to body image, accounted for eating disturbances above and beyond body image dissatisfaction (Velplanken & Velsik, 2008). Furthermore, another study found that body shame and rumination mediated the relationship between self-objectification and depression among adolescent girls, suggesting that rumination increases the effects of body image dissatisfaction on depression, a specific form of negative affect (Grabe, Hyde, & Lindberg, 2007).

Further support for the role of rumination in the prediction of negative affect stems from Nolen-Hoeksema's response style theory (RST), which addresses the relationship between rumination and negative affect and postulates rumination as a vulnerability factor for the onset and maintenance of psychological distress (Nolen-Hoeksema, 1987; Nolen-Hoeksema, 1991). When compared with respondents who were induced to distract themselves, respondents who were induced to ruminate showed increased negative thinking and dysphoric mood (Lyubomirsky & Nolen-Hoeksema, 1995; Lyubomirsky, Tucker, Caldwell, & Berg, 1999; Moberly & Watkins, 2008). Individuals who employ ruminative response styles may use maladaptive behaviors to avoid these self-directed ruminations, such as binge eating (Nolen-Hoeksema, Stice, Wade, & Bohon, 2007; Abramson, Bardone-Cone, Vohs, Joiner, & Heatherton, 2006; Heatherton & Baumeister, 1991). Thus, based on the above research, rumination was tested as a predictor of body dissatisfaction, a predictor of negative affect, and a mediator of the association between body dissatisfaction and negative affect.

1.4. Self-compassion

According to Neff, self-compassion involves being open to one's own suffering without a desire to reduce or alleviate it, healing oneself with kindness rather than judgment, and understanding that pain is part of human experience (Neff, 2003). The concept of self-compassion has received increasing attention in relation to disordered eating and body image. One study found that high self-compassion predicted less body preoccupation, fewer concerns about weight, and greater appreciation toward one's body independently of self-esteem (Wasylkiw, MacKinnon, & MacLellan, 2012). A follow-up study found that high scores on self-compassion predicted less eating guilt independent of self-esteem while self-judgment, a component of self-compassion, was a unique predictor of body preoccupation (Wasylkiw et al., 2012). According to one study, lower levels of self-compassion were correlated with higher levels of eating disorder symptoms in both a clinical and non-clinical sample of women (Ferreira, Pinto-Gouveia, & Duarte, 2013). In another study, a mentality focused on ranking, shame, and competition predicted body image dissatisfaction, which lead to a drive for thinness through the mechanisms of increased self-criticism and decreased self-compassion (Pinto-Gouveia, Ferreira, & Duarte, 2014). Finally, one study found that thinking self-compassionately about eating helped college women reduce their distress toward eating (Adams & Leary, 2007). Based on the above literature, self-compassion was tested as a predictor of body dissatisfaction and dietary restraint as well as a mediator of the relationship between body dissatisfaction and dietary restraint.

1.5. The present study

Therefore, the purpose of the present study was to replicate and extend the dual pathway model of bulimic symptoms by a) adding fear of negative evaluation and suggestibility as pre-cursors to thin ideal internalization; b) examining the role of rumination as a predictor of body dissatisfaction, negative affect, or a mediator of their association; and c) examining the role of self-compassion as a predictor of body dissatisfaction, dietary restraint, or a mediator of their association.

2. Method

2.1. Participants

Participants included 296 female university students recruited from an on-line data collection service (SONA) to serve as a university sample, and 313 women recruited from an on-line data collection service (Mechanical Turk) to serve as a community sample, for a total of 609 participants. Women between the ages of 18 and 65 were invited to participate. Participants recruited via SONA received course credit or extra credit, and participants recruited via Mechanical Turk were paid $1.00 for participation in the study. The research was reviewed and approved by an institutional review board, and participation involved informed consent.

2.2. Measures

2.2.1. The eating disorder examination-questionnaire (EDE-Q) (Fairburn & Beglin, 1994; Fairburn & Beglin, 2008)

The EDE-Q is a 39-item self-report measure derived from the Eating Disorder Examination (EDE), a widely used investigator-based interview for the diagnosis of eating disorders (Fairburn & Cooper, 1993). All but one subscale was found to have internal consistency reliabilities above 0.70 (Vander Wal, Stein, & Blashill, 2011). The internal consistency of the total Global Score was found to be 0.90 (Vander Wal et al., 2011).