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Shame and guilt as shared vulnerability factors: Shame, but not guilt, prospectively predicts both social anxiety and bulimic symptoms

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ABSTRACT

Social anxiety disorder (SAD) and bulimia nervosa (BN) are highly comorbid. However, little is known about the shared vulnerability factors that prospectively predict both SA and BN symptoms. Two potential factors that have not yet been tested are shame and guilt. In the current study we tested if shame and guilt were shared vulnerability factors for SA and BN symptoms. Women ($N = 300$) completed measures of SA symptoms, BN symptoms, state shame and guilt, and trait negative affect at two time points, two months apart. Utilizing structural equation modeling we tested a cross-sectional and prospective model of SA and BN vulnerability. We found that shame prospectively predicted both SA and BN symptoms. We did not find that guilt prospectively predicted SA or BN symptoms. However, higher levels of both BN and SA symptoms predicted increased guilt over time. We found support for shame as a shared prospective vulnerability factor between BN and SA symptoms. Interventions that focus on decreasing shame could potentially alleviate symptoms of BN and SA in one protocol.

1. Introduction

Anxiety disorders are highly prevalent in women diagnosed with bulimia nervosa (BN) (Pallister & Waller, 2008). Out of all of the anxiety disorders, social anxiety disorder (SAD) is the most commonly occurring, with up to 60% of women with BN also meeting criteria for SAD (Swinbourne & Touyz, 2007). Further, individuals with SAD are more likely to report disordered eating than controls (Godart et al., 2003). The high level of comorbidity between SAD and BN suggests that there may be shared vulnerability factors between these disorders.

1.1. Shared vulnerabilities for social anxiety and BN

It is thought that all mental disorders represent clusters of illness with overlapping genetic and non-genetic vulnerability factors (Fyer & Brown, 2009), which can be applied to comorbidity between BN and SAD (Godart et al., 2003; Pallister & Waller, 2008). Research supports the shared vulnerability theory in general (Wade, Bulik, Prescott, & Kendler, 2004), and specifically for SAD and eating disorders, showing that negative evaluation fears and perfectionism may be shared vulnerabilities for social anxiety (SA) and eating disorder symptoms (Levinson & Rodebaugh, 2012; Levinson & Rodebaugh, 2014; Levinson et al., 2013). However, there are several vulnerability factors that have been associated with SA and BN independently, which have not yet been explored as shared vulnerability factors. Two of these uninvestigated potential shared vulnerabilities are shame and guilt. The current study was designed to test if shame and guilt are shared vulnerability factors underlying SA and BN symptoms.

Shame and guilt are often assumed to be the same, or very similar, constructs (Ashby, Moran, Slaney, & Cotter, 1997). However, it has been shown that shame and guilt are related, yet distinct, independent constructs affecting behaviors in divergent manners (Tangney & Dearing, 2002; Weiner, 1985). Shame involves internal, global, and stable attributions toward the self, whereas guilt is focused on a specific behavior and has internal, specific, and fairly stable attributions (Tangney & Dearing, 2002). Gilbert and Andrews (1998) described shame in terms of becoming an unattractive self, in one's own eyes or the eyes of others. For example, an individual experiencing shame who is late to work after a night of drinking might think, "I'm such a loser; I just can't get it together," reflecting a tendency to generalize a situation to all aspects of the self. On the other hand, an individual experiencing guilt would more likely think, "I feel bad for showing up late. I inconvenienced my co-workers," reflecting a tendency to feel emotion toward a specific instance not generalized to one's whole self (Dearing, Stuewig, & Tangney, 2005). Shame and guilt have been shown to play a significant role in the symptoms associated with both SA and BN (Hedman, Ström, Stünkel, & Mörtberg, 2013), suggesting they could be shared vulnerability or maintenance factors and possibly an underlying explanation for the high comorbidity between the two

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disorders. Below we review the literature linking shame and guilt with SA and BN.

1.2. Shame, guilt, and BN

Women with BN experience higher levels of shame and guilt than healthy controls and people with clinical disorders, such as depression (Grabhorn, Stenner, Stangier, & Kaufhold, 2006). Additionally, women with BN also experience greater fluctuations in both shame and guilt than healthy controls (Sanftner & Crowther, 1998). Most recently, Berg et al. (2013) demonstrated that after controlling for other aspects of negative affect, guilt maintained a significant relationship with bulimic behaviors. This study is important because it suggests that guilt may be the specific form of negative affect responsible for the maintenance of bulimic behaviors. However, we should note that these authors did not specifically measure shame. Other studies have shown that increases in state negative affect following stressful events result in subsequent occurrence of bulimic behaviors (Goldschmidt et al., 2014). Although the role of state negative affect is clearly significant in the prevalence of bulimic behaviors, elucidating specific aspects of negative affect, such as shame and guilt, may allow for more focused treatment.

1.3. Shame, guilt, and SA

Whereas both shame and guilt have a presence in the eating disorder literature, there has been an emphasis on shame as a significant correlate in the anxiety disorder literature. Testing the relationships between shame and guilt with anxiety symptoms, Fergus, Valentiner, McGrath, and Jencius (2010) found that SAD shared a significant specific relationship with shame-proneness after controlling for guilt-proneness, indicating that shame may be more relevant to symptoms of SA than guilt. Other studies have also found that shame is significantly related to SA symptoms, whereas guilt does not have a specific relationship with SA above and beyond shame (Fergus et al., 2010; Hedman et al., 2013). Thus, the current literature supports the idea that shame may be a vulnerability factor for both SAD and BN, whereas guilt may be relevant for BN only. However, the fact that the strongest evidence for guilt predicting BN symptoms occurs in studies in which shame was not included might indicate that shame may be the primary predictor of importance for both sets of symptoms.

1.4. The current study

The studies linking shame and guilt with BN and shame with SAD represent a crucial step forward in our understanding of the relationships between these constructs. However, these studies are often limited by their focus on only one time point (Grabhorn et al., 2006; Hayaki, Friedman, & Brownell, 2002). To truly test if these constructs are vulnerabilities for BN and SAD, we need prospective data that can determine if shame and guilt predict later BN and SAD symptoms. Otherwise, it is impossible to determine if these constructs are vulnerabilities, or rather just correlates of these types of symptoms. We also chose to test these symptoms dimensionally (and therefore in a non-clinical sample), in line with other comorbidity models in the field, as well as to have the full range of symptomatology present (e.g., Krueger & Piasecki, 2002).

In the current study, we tested if state shame and guilt were related to both SA and BN symptoms (a) cross-sectionally and (b) prospectively over the course of two months. We hypothesized that shame would predict bulimic and SA symptoms, whereas guilt would predict bulimic symptoms. We also expected, prospectively, that there could be bidirectional relationships between bulimic symptoms and shame and guilt based on findings that show that shame increases after bulimic episodes (i.e., bingeing: (Knatz, 2012)), whereas guilt decreases (De Young et al., 2013).

2. Methods

2.1. Participants

Participants were 300 undergraduate women who participated for course credit. College women are an ideal population for this study because they are a high risk sample for the development of BN (Taylor et al., 2006). Table 1 describes participants' BN and SA scores at Time 1 and the number of participants who crossed from a non-clinical to clinical threshold from Time 1 to Time 2. The clinical range for BN is determined by a score at or above the mean of a clinical sample of women with eating disorders from Garner, Olmstead, and Polivy (1983). The clinical range for SA is determined by a score of 28 on the SIAS, which has been suggested as a cut-off score (see measure description below) for probable SAD (Rodebaugh et al., 2011).

Participants were mostly Caucasian ($n = 182$, 60.7%). Other ethnicities reported were Asian ($n = 82$, 27.3%), Black ($n = 12$, 4.0%), Hispanic ($n = 8$, 2.7%), multi-racial ($n = 15$, 5.0%), and 1 participant reported ethnicity as not listed. Participants had a median age of 18.00 years ($SD = 1.05$) and most participants were in their 1st year of undergraduate school ($n = 164$; 57.1%).

2.2. Measures

2.2.1. The Eating Disorder Inventory-2 (EDI)

The Eating Disorder Inventory-2 (EDI) (Garner, 1991) is a 91-item self-report questionnaire designed to measure psychological features commonly associated with anorexia nervosa and BN (e.g., *I eat when I am upset*). EDI scores have good internal consistency and good convergent and discriminant validity (Garner et al., 1983) and clinicians frequently use the EDI to assess for eating disorder symptoms (Brookings & Wilson, 1994). We used the BN subscale scored according to the directions given in Garner et al. (1983). The BN subscale includes 7-items that assess bulimic behaviors such as bingeing and purging. In the current study, internal consistencies were good (αs = 0.73–0.79).

2.2.2. The Social Interaction Anxiety Scale (SIAS)

The Social Interaction Anxiety Scale (SIAS) (Mattick & Clarke, 1998) is a 20-item measure designed to assess social interaction anxiety. The items describe anxiety-related reactions to a variety of social situations (e.g., *I have difficulty talking with other people*; *I am tense mixing in a group*). Overall, research on the scale suggests good to excellent reliability and good construct validity (Rodebaugh et al., 2011). When used for statistical analyses, the three reverse-scored items are omitted, as available evidence suggests that these items fail to load on the same factor as the other items (Rodebaugh et al., 2011). In the current study, internal consistencies were excellent (αs = 0.92–0.96).

2.2.3. State Shame and Guilt Scale (SSGS)

State Shame and Guilt Scale (SSGS) (Marschall, Sanftner, & Tangney, 1994) is a 15-item self-report measure consisting of three subscales designed to assess state shame, guilt, and pride. An example of a guilt item is, "*I felt bad about something I did*." An example of a shame item is, "*I want to sink into the floor and disappear*." Both the shame and guilt subscales of the SSGS have shown acceptable convergent validity (Fedewa,

Table 1
Descriptive statistics of participants' bulimic and social anxiety symptoms.

	T1 BN	T1 SA
Range	0–17	0–61
Mean	1.12	22.06
SD	2.25	12.31
Percentage of participants in clinical range	8.7%	26.6%
Cross-over rates from T1 to T2 (non-clinical to clinical)	$n = 9$	$n = 20$

Notes: SA = social anxiety symptoms; BN = bulimic symptoms; T1 = Time 1; T2 = Time 2 (two months later).