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Development and Validation of the Body-Focused Shame and Guilt Scale

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Abstract

Body shame is described as central in clinical literature on body dysmorphic disorder (BDD). However, empirical investigations of body shame within BDD are rare. One potential reason for the scarcity of such research may be that existing measures of body shame focus on eating and weight-based content. Within BDD, however, body shame likely focuses more broadly on shame felt in response to perceived appearance flaws in one's body parts. We describe the development and validation of the Body-Focused Shame and Guilt Scale (BF-SGS), a measure of BDD-relevant body shame, across two studies: a two time-point study of undergraduates, and a follow-up study in two Internet-recruited clinical samples (BDD, obsessive compulsive disorder) and healthy controls. Across both studies, the BF-SGS shame subscale demonstrated strong reliability and construct validity, with Study 2 providing initial clinical norms.

Keywords

shame; body shame; body dysmorphic disorder; measurement

Introduction

Body dysmorphic disorder (BDD) is a serious mental illness, in which individuals worry excessively about imagined or very slight appearance defects. In an attempt to minimize defects and the associated worry, individuals with BDD also engage in repetitive compulsive behaviors, such as ritualized grooming, repetitive mirror checking, and camouflaging body parts of concern (American Psychiatric Association [APA], 2013). BDD is classified as an obsessive compulsive related disorder (OCRD) in the DSM-5, as the pattern of obsessions and compulsions in BDD share similarities to the phenomenology of obsessive compulsive

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disorder (OCD; APA, 2013; Phillips et al., 2010). However, even in comparison to OCD, BDD stands out as an especially debilitating mental illness. It is associated with housebound rates as high as 30% (Phillips et al., 2006), in addition to higher rates of social impairment, occupational impairment, depression, and suicidality than those observed in other mental illnesses (e.g., Phillips et al., 2006).

One factor that may help explain these notably poor outcomes among BDD sufferers is an intense experience of shame. Body shame has been described as a key component to obsessive thoughts regarding the self-perception of one's body as early as 1903 (Janet, 1903). Since then, body shame has remained pivotal to conceptualizations and case descriptions of BDD (Albertini & Phillips, 1999; Cororve & Gleaves, 2001; Phillips, 1999; Rosen, 1995). For example, possible developmental models of shame have been suggested within both cognitive behavioral and social learning conceptualizations of BDD (Neziroglu, Khemlani-Patel, & Veale, 2008). In the wider emotions literature, shame is linked with withdrawal, depression, impairment, and suicidality (Tangney & Dearing, 2002), which may help to explain the elevated rates of such outcomes in BDD. Despite these severe correlates of shame, a recent review indicates that empirical research examining shame in BDD is scarce (Weingarden & Renshaw, 2015).

One reason there may be so little empirical investigation of shame in BDD is that, to the best of our knowledge, no self-report measure of BDD-relevant body shame currently exists. In the scarce empirical studies of shame in BDD, two studies have measured shame with a single item about whether shame acts as a barrier to treatment-seeking (Buhlmann, 2011; Marques, Weingarden, LeBlanc, & Wilhelm, 2011) and one study utilized an implicit association task that assessed body shame associations among individuals with BDD (Clerkin, Teachman, Smith, & Buhlmann, 2014). Although there are existing self-report measures of body shame (e.g., Body Image Guilt and Shame Scale, BIGSS; Thompson, Dinnel, & Dill, 2003), these measures tend to capture weight- and eating-based shame, which is more likely to occur in individuals with eating disorders. Unlike eating disorders, primary concerns in BDD are not weight or eating based; rather, they tend to focus on the skin, facial features, or other specific body parts (APA, 2013). The Experience of Shame Scale – Body subscale (ESS; Andrews, Qian, & Valentine, 2002) is another measure of body shame, but it seems to more closely assess BDD criteria themselves rather than shame (e.g., “Have you worried about what other people think of your appearance?,” “Have you avoided looking at yourself in the mirror?”). Thus, extant measures appear insufficient for capturing the type of body shame one would likely experience within the context of BDD.

The present study aimed to develop and validate a measure of body-focused shame that is relevant to the shame experience within BDD. To develop this measure, we first turned to the broader literature regarding measurement of shame. Shame is defined as a deeply painful emotion that is felt when a person judges him- or herself as defective or bad (Tangney & Dearing, 2002). Shame, which focuses broadly on judging *oneself* as bad, differs from other self-conscious emotions, such as guilt, which is experienced when a person judges his or her *behavior* as bad. In addition, shame tends to be a stronger predictor than guilt of widespread negative outcomes, including social impairment and withdrawal, depression, and suicidality

(Andrews et al., 2002; Hastings, Northman, & Tangney, 2000; Kim, Thibodeau, & Jorgensen, 2011; Tangney, Wagner, & Gramzow, 1992).

Existing measures of self-conscious emotions such as shame and guilt vary greatly. Some studies assess these constructs through single, direct questions requesting a Likert rating of shame, guilt, and/or other emotions, whereas others use multi-item measures that also directly refer to *shame* and/or *guilt*. These assessment methods may be limited in several ways. First, they often assess multiple emotions simultaneously in one item. For example, a single item may ask participants to rate *shame and guilt*. Moreover, when participants are asked to directly rate *shame*, this requires that participants understand the distinctions between shame and other self-conscious emotions. Yet, evidence suggests that people do not accurately distinguish one self-conscious emotion from another, but rather tend to confuse and blend them (Tangney & Dearing, 2002)

To address these measurement issues, Tangney and colleagues (1989) developed several versions of a scenario-based measure of generalized shame-, guilt-, and externalization-proneness called the Test of Self-Conscious Affect (TOSCA) scales (Tangney, Wagner, & Gramzow, 1989). The TOSCA scales present a series of scenarios likely to produce a shame, guilt, or externalizing response. Instructions ask participants to rate their likelihood of responding in each of these possible ways (i.e., a shame-driven response, a guilt-driven response, an externalization of blame-driven response). Rather than relying on the oft-confused terms “shame” and “guilt,” responses present phenomenological descriptions of what shame (or guilt) would *feel* like. In addition, the measure is not ipsative in nature; participants rate their likelihood of responding in shame-prone *and* guilt-prone ways, rather than choosing between one or the other. This type of measure has the benefit of assessing participants’ proneness to each of these distinct emotions (which are not mutually exclusive), without relying on the participants’ knowledge of these nuanced distinctions. The TOSCA scales have demonstrated strong reliability and validity (for a summary, see Tangney & Dearing, 2002). One of the leading body shame measures, the BIGSS, was modeled after the TOSCA’s format. The BIGSS also demonstrates strong reliability and validity but is focused primarily on weight- and eating-based shame (Thompson et al., 2003). Given the methodological strengths of scenario-based measures of self-conscious emotions, we modeled our scale after these existing measures.

Development of the Body-Focused Shame and Guilt Scale

Drawing on this shame literature, as well as clinical and empirical knowledge of BDD, we developed the Body Focused Shame and Guilt Scale (BF-SGS; see Appendix). Modeled after the TOSCA and BIGSS, the BF-SGS presents scenarios that are likely to evoke self-conscious emotions regarding one’s body parts (e.g., “You go to the mall, and everybody seems better looking than you”). Following the TOSCA’s format, we created not only shame-driven response options (e.g., “You would feel so awful that you’d want to hide”), but also guilt-driven (e.g., “You would think, “I should spend more time trying to improve my appearance”) and externalization-of-blame (e.g., “You would think, “They don’t lead busy lives, so they are able to spend more time on their appearance”) response options. In line with the standard of other scenario-based measures, we included guilt and

externalization items in order to provide a wider range of potential responses, rather than only having shame-based response options. Furthermore, there is not a well-developed research base investigating the role of guilt in BDD. Thus, the guilt subscale also provides a method for empirically evaluating the role of guilt in BDD.

Some items for our measure were adapted from the BIGSS (Thompson et al., 2003) to be relevant to body parts, as opposed to weight or eating, and additional items were developed in consultation with clinical experts and through drawing from BDD conceptualizations. Seventeen items were initially generated and refined. Subsequently, items were reviewed by a leading shame and guilt researcher (third author), a leading BDD researcher (fourth author), an obsessive-compulsive related disorders researcher (second author) and a team of clinicians specialized in treatment of OCRDs, including BDD. Following input from these experts, items were edited again and refined to develop the final version of 13 scenarios and associated items.

We then conducted two studies of the psychometric properties of this new measure. First, to gather basic data on internal consistency, test-retest reliability, and convergent and discriminant validity, we tested the BF-SGS in an undergraduate sample with a wide range of mild to elevated appearance concerns, at two time points. In this study, we included the TOSCA-4 and BIGSS, as well as measures of BDD and OCD symptom severity. We used the measure of OCD symptoms to evaluate discriminant validity of our measure by comparing associations of the BF-SGS with BDD symptoms to associations of the BF-SGS with OCD symptoms. OCD symptoms were chosen as a stringent basis of comparison because, while symptoms of both OCD and BDD include obsessions and compulsions, only BDD symptoms focus on appearance-related issues. Thus, we expected the BF-SGS to demonstrate stronger associations with BDD symptom severity compared to OCD symptom severity. Next, in Study 2, we tested the BF-SGS across three Internet-recruited groups: a BDD group, an OCD group, and a healthy control (HC) group. These data allowed us to determine if findings from Study 1 would be replicated in clinical groups, while also obtaining clinical norms for the measure.

Study 1

Materials and Methods

Participants—The final Time 1 (T1) sample consisted of 283 undergraduate students enrolled in Psychology courses at a highly diverse university in the mid-Atlantic region. Participants completed study measures online for psychology course credit. A majority of participants were female (81.6%) and single (87.3%). Participants ranged in age from 18-45 ($M = 21.25$, $SD = 3.84$). Approximately half of participants (53.4%) reported their race as White, while 22.3% identified as East Asian, Southeast Asian, or Middle Eastern, 8.8% identified as African American, 11% identified as another race, and 4.6% did not report race.

Ninety-three participants completed Time 2 (T2). Participants who completed T2 did not differ significantly from T2 non-completers on major T1 demographics variables, including age, sex, race/ethnicity, and marital status (all $ps > .30$). Additionally, T2 completers and

non-completers did not have significantly different mean scores for T1 BF-SGS shame, guilt, or externalization, BDD Yale-Brown Obsessive Compulsive Scales (BDD Y-BOCS; a measure of BDD symptom severity), or Obsessive Compulsive Inventory-Revised (OCI-R; a measure of OCD symptom severity) (all $ps > .20$).

Measures—In addition to demographic items and the BF-SGS, participants completed the following self-report measures.

Test of Self-Conscious Affect-4 (TOSCA-4; Tangney et al., 2008): The TOSCA-4 is a scenario-based self-report measure of one's proneness to react to situations with shame, guilt, or externalization of blame. It presents 15 scenarios that might elicit these emotions (e.g., "When visiting a favorite relative, you accidentally break something you know is important to them"), and it asks participants to rate their likelihood of responding to each scenario in three ways (i.e., a reaction demonstrating a shame-driven response, a guilt-driven response, and an externalization of blame-driven response). The TOSCA-4 captures cognitive and affective components of shame and guilt, as well as associated behaviors or "action tendencies" corresponding to shame and guilt. While the cognitive-affective items and behavioral items can be examined as separate subscales on the TOSCA-4, in the present study we combined cognitive-affective and behavioral items together for an overall shame score and an overall guilt score. In addition, a subscale assessing externalization of blame is included for further discrimination of possible responses. For each scenario, participants rate their likelihood of responding in each manner (shame, guilt, or externalization) on a 5-point Likert scale, with higher scores indicating greater shame-, guilt-, or externalization-proneness. In this way, an overall proneness toward each type of reaction is obtained. In Study 1, internal consistency was strong at both T1 and T2 for the shame ($\alpha = .94$; $\alpha = .96$, respectively), guilt ($\alpha = .92$; $\alpha = .96$, respectively), and externalization of blame ($\alpha = .85$; $\alpha = .91$, respectively) subscales.

Body Image Guilt and Shame Scale (BIGSS; Thompson, Dinnel, & Dill, 2003): The BIGSS is a 14-item, self-report measure of body shame and guilt. It was modeled after the TOSCA and uses a similar scenario-based format. However, the scenarios presented are primarily weight- and eating-based (e.g., "Your partner asks you to lose weight;" shame response: "You would feel worthless and undervalued;" guilt response: "You would decide to do something about your weight"). Items are scored on a Likert scale from 1 (*not likely*) to 5 (*very likely*), and higher scores indicate greater body shame and guilt. The measure had strong internal consistency for body shame ($\alpha = .91$) and body guilt ($\alpha = .88$), as well as strong construct validity via correlations of the BIGSS and TOSCA scales, in an undergraduate sample (Thompson, Dinnel, & Dill, 2003). In our Study 1 sample, the scale had strong internal consistency at both Times 1 and 2 for the shame ($\alpha = .94$; $\alpha = .94$, respectively) and guilt ($\alpha = .91$; $\alpha = .92$, respectively) subscales.

BDD Y-BOCS (Phillips, Hollander, Rasmussen, & Aronowitz, 1997): The self-report version of the BDD Y-BOCS was used to assess BDD symptom severity in the present study. Adopting procedures from prior studies (e.g., Marques et al., 2011), we included a 10-item, self-report version adapted from the clinician-administered BDD Y-BOCS (Phillips et

al., 1997). This self-report adaptation omits two items from the clinician-administered BDD Y-BOCS that measure insight and avoidance, as these constructs are difficult to assess via self-report. Items are scored on a 5-point Likert scale, with total scores ranging from 0 to 40 and higher scores corresponding with more severe BDD symptoms. Strong psychometric properties are documented for the 12-item version, including internal consistency ($\alpha = .80$), test-retest reliability ($ICC = .88$), and sensitivity to change following treatment (Phillips et al., 1997). Comparably strong psychometric properties are documented for the 10-item version, including reliability, construct validity, sensitivity to change, and factor structure, (Phillips et al., 1997). In the present study, internal consistency was strong (T1 $\alpha = .89$; T2 $\alpha = .92$).

OCI-R (Foa et al., 2002): The OCI-R is an 18-item self-report measure of OCD symptom severity. Items are scored on a Likert scale ranging from 0 (*not at all*) to 4 (*extremely*), and total scores range from 0-72. The scale has had strong internal consistency in a clinical population ($\alpha = .81$) and in a non-anxious control population comprised of undergraduates and others from the community ($\alpha = .89$). The scale also demonstrated strong test-retest reliability over a 2-week period in a clinical population and over a 1-week period for non-anxious controls, and it demonstrated strong convergent validity with the Yale-Brown Obsessive Compulsive Scale (Y-BOCS; Goodman, Price, Rasmussen, & Mazure, 1989a, 1989b) (Foa et al., 2002). In the present sample, the OCI-R had strong internal consistency (T1 $\alpha = .90$; T2 $\alpha = .92$).

Procedures—Interested participants were first directed to a page containing the Informed Consent document, which they were required to read and agree to (by clicking an “I agree” button) before being permitted to proceed to the next page. Participants next completed each of the study measures online. Consent and study measures were administered through Qualtrics, a secure Internet survey platform. Total completion time took approximately 45-90 minutes, and participants were provided course credit as compensation for participating. To maintain integrity of data, we included only participants who spent sufficient time completing the survey (no fewer than approximately 30 minutes) and who appropriately answered two questions dispersed in the survey as quality checkpoints. We removed 53 participants who did not meet these quality checks to arrive at the final sample of 283.

Approximately 3 weeks after completing T1, participants were sent an email with a link to the online study, inviting them to participate in T2. Participants who did not complete T2 within 1 week of the invitation received a follow-up reminder email. As with T1, participation in T2 took approximately 45-90 minutes, and participants were provided course credit for participating. The university’s Institutional Review Board (IRB) approved all procedures.

Data analyses—We investigated the reliability of the BF-SGS through a series of classical test theory analyses. Additionally, we assessed the construct validity of the BF-SGS at T1 by testing correlations among the scales of the BF-SGS and scales from related measures. In particular, we expected that the BF-SGS shame scale would be more strongly correlated with the shame subscales of the TOSCA-4 and BIGSS than the guilt subscales of

these measures. In contrast, we expected the BF-SGS guilt scale would be more strongly correlated with guilt rather than shame subscales of the TOSCA-4 and BIGSS. Additionally, we expected the BDD YBOCS score to be more strongly correlated with the newly developed BF-SGS shame and guilt scales than with the weight and eating-based BIGSS scales. Finally, we expected the BF-SGS shame and guilt scales to be more strongly correlated with BDD symptom severity (BDD YBOCS) than with OCD symptom severity (OCI-R).

Results

Means and standard deviations for the BF-SGS shame, guilt, and externalization scales at T1 and T2 are reported in Table 1. At T1, the shame and guilt scales were strongly correlated with one another ($r = .77, p < .001$), whereas the externalization scale was only weakly correlated with shame ($r = .23, p < .001$) and moderately correlated with guilt ($r = .34, p < .001$).

Reliability—Cronbach's alphas were strong across all subscales of the BF-SGS for T1 (α s ranging from .81 to .92) and T2 (α s ranging from .89 to .94) (see Table 1). Item-total correlations for the shame and guilt scales were strong for all items at both time points (see Table 2). Last, correlations between T1 and T2 scores on the BF-SGS shame ($r = .88, p < .001$) and guilt ($r = .82, p < .001$) scales were strong, supporting test-retest reliability of the scales over 3 to 4 weeks.

Convergent/Discriminant Validity: Other Measures of Shame and Guilt—Our first step in testing convergent and discriminant validity of the measure was to use T1 data to examine correlations among the shame and guilt scales on the BF-SGS, TOSCA-4 (general shame and guilt), and BIGSS (weight- and eating-based shame and guilt) (see Table 3). Overall, BF-SGS scales were more strongly correlated with the weight- and eating-focused BIGSS scales than with TOSCA-4 general scales. Moreover, the BF-SGS shame scale was more strongly correlated with the BIGSS body shame scale than with the BIGSS body guilt scale. Similarly, the BF-SGS shame scale was strongly correlated with the TOSCA-4 general shame scale, but uncorrelated with the TOSCA-4 measure of general guilt.

In contrast to our expectations, the BF-SGS guilt scale was strongly and nearly equally correlated with both the BIGSS body guilt and BIGSS body shame scales. Moreover, BF-SGS guilt appeared to be more strongly correlated with TOSCA-4 general shame than TOSCA-4 general guilt (see Table 3). These results are consistent with the high correlation between the shame and guilt subscales. In sum, these results offer good support for the convergent and discriminant validity of the BF-SGS shame scale, with more equivocal support for the convergent and discriminant validity of the BF-SGS guilt scale.

Convergent/Discriminant Validity: Measures of psychopathology—Next, we examined the strength of correlations of BF-SGS shame and guilt scales with measures of BDD symptom severity (BDD Y-BOCS) and OCD symptom severity (OCI-R; see Table 4). As expected, BF-SGS shame and guilt were both strongly correlated with BDD Y-BOCS

scores, more so with than with OCI-R scores. Contrary to hypotheses, however, the BF-SGS and BIGSS shame scales were similarly correlated with the BDD Y-BOCS and OCI-R (see Table 4). Likewise, the BF-SGS and BIGSS guilt scales were similarly correlated with the BDD Y-BOCS and OCI-R (see Table 4). Thus, the BF-SGS scale did not demonstrate stronger correlations with BDD symptom severity than the BIGSS scales, nor did they differentiate between BDD and OCD symptom severity better than the BIGSS scales.

Discussion

Overall, results demonstrate that the BF-SGS shame, guilt, and externalization scales have strong internal consistency and test-retest reliability over a 3–4 week timeframe. Results also support the convergent and discriminant validity of the BF-SGS shame scale and, albeit somewhat less strongly, the BF-SGS guilt scale. The pattern of strengths of associations of the BF-SGS shame scale with other measures of shame (body and general) and guilt (body and general) was in the expected direction. These results suggest that, as intended, the scales appear to measure body shame as opposed to guilt or generalized shame. Likewise, the pattern of strengths of associations with a measure of BDD symptom severity compared to OCD symptom severity was in the expected direction. These findings suggest that the scale measures shame that is more relevant to BDD than to OCD, a related form of psychopathology. Interestingly, the correlations of BF-SGS and BIGSS body shame scales' with BDD severity appeared similar in magnitude, suggesting that both scales may be strong measures of BDD-relevant body shame in a non-clinical sample.

The BF-SGS guilt scale demonstrated more equivocal validity with other measures of shame and guilt. It did not consistently correlate more strongly with other measures of guilt, compared to other measures of shame, suggesting that the scale may not distinguish well between these two nuanced emotions. However, as expected, the BF-SGS guilt scale was more strongly correlated with BDD symptoms than OCD symptoms. Thus, as intended, the scale measures self-conscious emotions unique to BDD, compared to related psychopathology. Finally, the BF-SGS guilt scale and BIGSS guilt scale were similarly correlated with BDD symptoms, suggesting that both of these measures may be strong measures of guilt experiences in BDD.

Study 2

The next step in evaluating the BF-SGS was to examine its properties in a sample of individuals with clinical or subclinical BDD. This type of investigation was the focus of Study 2. In Study 2, we collected data from three Internet-recruited groups: a BDD group, an OCD group, and a healthy control (HC) group. The aims of Study 2 were (1) to determine whether the patterns of results from Study 1 are replicable in a BDD sample, and (2) to obtain clinical norms for the measure.

Materials and Methods

Participants—Participants were recruited for the BDD diagnostic group (the primary group of interest; $n = 78$) and OCD diagnostic group ($n = 80$) through study advertisements posted on BDD- and OCD-related clinic websites (e.g., Massachusetts General Hospital

OCD and Related Disorders Program website), OCRD organization websites (e.g., International OCD Foundation website, OCD Action website), and flyers posted in OCRD treatment centers. HC participants ($n = 124$) were recruited through study postings on non-mental health related websites (e.g., Facebook research participation sites), forums (e.g., Reddit), and crowd-sourcing sites (i.e., Amazon Mechanical Turk). BDD severity, measured with the BDD Y-BOCS, differed significantly by group ($F[2, 292] = 163.48, p < .001$). Bonferroni-corrected post-hoc analyses showed that the BDD group ($M = 19.29, SD = 4.97$) had significantly more severe symptoms compared to the OCD group ($M = 14.93, SD = 7.61$), which in turn had significantly more severe symptoms compared to the HC group ($M = 5.56, SD = 4.54; ps < .001$). OCD severity, measured with the Y-BOCS, also differed significantly by group ($F[2, 297] = 377.51, p < .001$). Bonferroni-corrected post-hoc analyses showed that the OCD group ($M = 23.56, SD = 5.66$) had significantly more severe symptoms compared to the BDD group ($M = 13.46, SD = 6.74$), which in turn had significantly more severe symptoms compared to the HC group ($M = 2.79, SD = 4.38; ps < .001$). The OCD and HC groups are used in the present study to assess descriptive statistics for the study in our target vs. comparison groups, and to provide evidence of convergent and discriminant validity (i.e., to compare mean scores on the body parts shame scale across the groups).

Within the final samples, a majority of BDD (91.0%), OCD (83.8%), and HC (73.4%) participants were female, although these percentages differed significantly across groups [$F(2, 279) = 5.25, p < .01$]. Bonferroni-corrected post-hoc tests showed that the BDD group had significantly more females than the HC group ($p < .01$). Participants' age also differed significantly across groups, [$F(2, 279) = 10.72, p < .001$]. Bonferroni-corrected post-hoc tests demonstrated that HC participants ($M = 36.79, SD = 12.95$) were significantly older than both BDD ($M = 30.78, SD = 11.29$) and OCD ($M = 29.83, SD = 10.16$) participants, $ps < .01$, with no differences between the BDD and OCD groups. Participants' relationship statuses also differed across groups ($\chi^2[4] = 23.77, p < .001$). Follow-up Bonferroni-corrected pairwise comparisons showed that a significantly greater proportion of HC participants (45.2%) were married compared to OCD participants (15.0%; $p < .05$), with BDD participants in the middle (26.9%). Furthermore, a greater proportion of OCD participants (53.8%) reported their relationship status as "single, separated/divorced, or widowed" than HC participants (29.0%; $p < .05$), again with BDD participants in the middle (38.5%). There were no group differences in the proportion of participants who reported that they were dating and/or living with a partner, unmarried (BDD: 34.6%; OCD: 31.3%; HC: 25.8%). Finally, the groups did not differ in terms of race ($\chi^2[14] = 19.07, p = .16$). The majority of participants (78.7%) reported their race as Caucasian, while 6.7% identified as African American, 6.4% identified as either East Asian, Southeast Asian, or Middle Eastern, 5.7% identified as Hispanic or Latino, and 2.5% identified as another race.

Measures—In addition to a demographics questionnaire and the BF-SGS, participants completed the following measures.

TOSCA-4 (Tangney et al., 2008): See Study 1 Method for a description of this scale. In Study 2, internal consistency on the TOSCA-4 was strong for shame ($\alpha = .97$) and guilt ($\alpha = .94$).

BIGSS (Thompson, Dinnel, & Dill, 2003): See Study 1 Method for a description of this scale. In Study 2, internal consistency was also strong for shame ($\alpha = .95$) and guilt ($\alpha = .92$).

Body Dysmorphic Disorder Questionnaire (BDDQ; Phillips, 1996): The BDDQ is a 4-item self-report screener (yes/no) for BDD diagnosis based on DSM-IV criteria. It excludes individuals with only weight-based concerns (i.e., who may have a primary eating disorder). In the present study, we also excluded individuals whose sole appearance concerns were from a body-focused repetitive behavior (e.g., trichotillomania). In a clinical sample, the BDDQ has been shown to have 100% sensitivity and 89% specificity in detecting BDD (Phillips, 1996).

BDD Y-BOCS (Phillips et al., 1997): See Study 1 Method for a description of the scale. In Study 2, internal consistency was also strong ($\alpha = .93$).

Yale-Brown Obsessive Compulsive Scale (Y-BOCS; Goodman, Price, Rasmussen, & Mazure, 1989a, 1989b): The Y-BOCS Severity Scale is the gold-standard assessment of OCD severity. It has 10 items and uses a Likert scale from 0 (least severe) to 4 (most severe). Items are summed to generate a final score (range = 0 – 40). The Y-BOCS has strong internal consistency and demonstrates validity as a measure of past-week severity of obsessions and compulsions (Goodman et al., 1989a, 1989b). Along with the Y-BOCS, we provided participants with a description and definition of obsessions and compulsions in OCD, taken from the Y-BOCS symptom checklist. To parallel the use of the BDDQ to establish BDD diagnosis, in the present study we used the Y-BOCS as a dichotomous OCD screening measure, based on DSM-IV diagnostic criteria. Thus, if participants indicated the presence of obsessions (consuming at least 1 hour per day) associated with “severe” or “extreme” interference or distress, or if they indicated the presence of compulsions (consuming at least 1 hour per day) associated with “severe” or “extreme” interference or distress, they were categorized as meeting criteria for OCD. In the present Study 2 sample, the Y-BOCS demonstrated strong internal consistency ($\alpha = .96$).

Obsessive-Compulsive Inventory-Revised (OCI-R; Foa et al., 2002): See Study 1 for a description of the scale. In Study 2 the OCI-R had strong internal consistency ($\alpha = .94$).

Depression Anxiety Stress Scale – Short Form (DASS-21; Lovibond & Lovibond, 1995): General symptoms of depression and anxiety were measured with the 7-item subscales of the DASS-21. Items are scored on a Likert scale ranging from 0 to 3, with higher scores corresponding to greater symptomatology. The DASS depression and anxiety subscales demonstrate good internal consistency in both clinical ($\alpha = .96, .89$, respectively) (Brown, Chorpita, Korotitsch, & Barlow, 1997) and non-clinical ($\alpha = .88, .82$, respectively) (Henry & Crawford, 2005) samples. Additionally, the depression subscale has strong concurrent validity with the Beck Depression Inventory (BDI) and discriminant validity with

the Beck Anxiety Inventory (BAI), whereas the anxiety subscale demonstrates strong concurrent validity with the BAI and discriminant validity with the BDI. The DASS-21 was used in the present study as part of the exclusion criteria for the HC group. Internal consistency in the present study was strong for depression ($\alpha = .94$) and good for anxiety ($\alpha = .87$).

Procedures—Inclusion criteria in the BDD group required that participants (1) be at least 18 years of age, (2) meet diagnostic criteria for BDD on the BDDQ, a psychometrically strong, dichotomous BDD screening measure, and (3) describe appearance concerns beyond *only* weight-based concerns or concerns due to a body-focused repetitive behavior such as trichotillomania or skin picking disorder (on the BDDQ). Inclusion criteria in the OCD group required that participants (1) be at least 18 years of age, and (2) meet DSM-IV criteria for OCD through answers to items on the Y-BOCS. To maintain homogenous groups, participants were excluded from the BDD group if they met inclusion criteria for the OCD group, and they were excluded from the OCD group if they also met inclusion criteria for BDD. Inclusion criteria for the HC group required that participants (1) did not meet criteria for either OCD or BDD on the respective screening measures, (2) screened negative for primary weight-or shape concerns on the BDDQ, (3) and scored no more than 1 *SD* above the normative sample mean on the DASS-21 depression subscale (i.e., 13) and anxiety subscale (i.e., 9), which equates to scoring in the normal to mild range on both scales.

Potential participants who encountered study advertisements could click the link to the study survey. There, they first encountered the Informed Consent page, which notified participants that a list of resources with embedded web links would be provided at the end of the study. Participants had the option to skip the study and proceed directly to this list of resources. Participants also had to indicate agreement with the informed consent (by clicking an “I agree” button) before they were permitted to progress to the survey. To maintain integrity of data, participants also had to accurately complete a CAPTCHA (Completely Automated Public Turing test to tell Computers and Humans Apart) prior to beginning the study. A CAPTCHA is a string of distorted numbers or letters that are presented on the screen, which participants are required to correctly type in to proceed with the study. CAPTCHAs are effective ways to prevent “bots,” or non-human computer programs, from completing a survey.

After agreeing to the consent and completing the CAPTCHA, participants were asked to answer questionnaires online through Qualtrics, a secure Internet survey platform. We included two screener questions at different points in the survey that acted as quality checkpoints. These items asked questions that have a single correct answer, which participants were expected to know (e.g., “The dog has four _____” [a] eyes; [b] teeth; [c] legs; [d] tails). Therefore, incorrect responses on these screener questions may indicate that a participant clicked quickly through the survey without reading items or spending sufficient time responding. Only participants who appropriately answered both screener questions were included in analyses. We removed 71 participants (24 from the BDD group, 28 from the OCD group, 19 from the HC group) who did not meet the screener question quality checks, to arrive at the final sample. The majority of participants spent approximately 30-75 minutes on the survey. Participants had the option of providing their email address at the end of the

survey if they wished to be entered into a raffle for study compensation. Seventy participants who entered the raffle were provided electronic gift cards (\$30). The university's Institutional Review Board (IRB) approved all procedures.

Data analyses—We first investigated the descriptive statistics of the BF-SGS shame, guilt, and externalization scales within the whole sample and across diagnostic groups. Second, we tested the internal consistency of the BF-SGS within the whole sample and within each group. Third, we replicated tests of convergent and discriminant validity described in Study 1 within the BDD group only, to evaluate construct validity of the measure specifically in those with BDD. Finally, we evaluated whether the BDD group had greater mean scores on BF-SGS shame and BF-SGS guilt compared to the OCD and HC groups. Of note, because of group differences in age, gender, and relationship status, we controlled for these demographic variables as covariates in tests of group differences.

Results

Overall means and standard deviations for BF-SGS shame, guilt, and externalization scales across the whole sample, as well as by group, are reported in Table 1. Once again, in the whole sample, BF-SGS shame and guilt were strongly correlated with one another ($r = .85$, $p < .001$), with a slightly weaker but still very strong correlation in those with BDD only ($r = .71$, $p < .001$). The BF-SGS externalization scale was weakly, non-significantly correlated with BF-SGS shame ($r = .07$, $p < .26$) and weakly correlated with BF-SGS guilt ($r = .12$, $p = .05$), with similarly low values in those with BDD only ($r = .08$, $p = .50$; $r = .07$, $p = .55$, respectively).

Reliability—Cronbach's alphas were strong across the BF-SGS shame and guilt scales for the whole sample and within each diagnostic group (see Table 1). Item-total correlations were also strong for all items in both the shame and guilt scales when assessed within the whole sample and within the BDD sample specifically (see Table 2).

Convergent/Discriminant Validity: Other Measures of Shame and Guilt—

Similar to Study 1, we ran analyses to assess the construct validity of the BF-SGS shame and guilt scales with other measures of shame and guilt. We conducted analyses within the BDD sample only, as the overall aim of Study 2 was to establish psychometric properties of the measure within a clinical BDD sample. The pattern of associations of the BF-SGS shame and guilt scales with general shame and guilt (on the TOSCA-4) and weight- and eating-based body shame and guilt (on the BIGSS) in this clinical BDD sample mirrored those in Study 1 (see Table 4). Specifically, BF-SGS shame was more strongly correlated with the BIGSS body shame scale compared to the BIGSS body guilt scale. Further, as expected, the BF-SGS shame scale was more strongly correlated with TOSCA-4 general shame compared to TOSCA-4 general guilt. Finally, the BF-SGS guilt scale was strongly correlated with both the BIGSS body guilt and body shame scales, with a slightly stronger correlation to BIGSS guilt. The BF-SGS guilt scale showed similar, moderate correlations with the TOSCA-4 general shame and guilt scales.

Convergent/Discriminant Validity: Measures of Psychopathology—As in Study 1, we next examined the strength of correlations between BF-SGS shame and guilt scales, as well as BIGSS shame and guilt scales, with measures of BDD symptom severity (BDD Y-BOCS) and OCD symptom severity (OCI-R). Again, these analyses were conducted within the BDD group only. Both BF-SGS shame and guilt scales were moderately correlated with BDD Y-BOCS scores, with a somewhat stronger association between BF-SGS shame and BDD Y-BOCS than between BF-SGS guilt and BDD Y-BOCS (see Table 4). Further, within this BDD sample, the BF-SGS shame and guilt scales appeared slightly more strongly correlated with BDD symptom severity compared to the respective BIGSS shame and guilt scales (see Table 4). Finally, as in Study 1, both BF-SGS shame and guilt were more strongly associated with BDD symptom severity (BDD Y-BOCS) than OCD symptom severity (OCI-R; see Table 4). In fact, BF-SGS shame and guilt were uncorrelated with OCD symptom severity.

Convergent/Discriminant Validity: Differences across Diagnostic Groups—Finally, using two one-way ANCOVAs, we examined whether scores on the BF-SGS differed across the BDD, OCD, and HC groups, with the expectation that scores would be greater among those with BDD than those with OCD and HCs. Of note, because of group differences in age, gender, and relationship status, we controlled for these demographic variables as covariates in both ANCOVAs. Results supported our hypothesis for shame, $F(2, 276) = 88.71, p < .001$, with a medium effect (partial eta squared = .39). Bonferroni-corrected post-hoc analyses showed that the BDD group had significantly greater mean shame scores compared to both the HC group ($p < .001$) and the OCD group ($p < .001$), and the OCD group also had significantly greater mean shame scores compared to the HC group ($p < .001$) (see Table 1). Results also supported our hypothesis for guilt, $F(2, 274) = 65.32, p < .001$, with a medium effect (partial eta squared = .32). Bonferroni-corrected post-hoc analyses demonstrated that the BDD group had significantly greater mean guilt scores compared to both the HC group ($p < .001$) and the OCD group ($p < .001$), and the OCD group had significantly greater mean guilt scores compared to the HC group ($p < .001$) (see Table 1).

Discussion

Consistent with Study 1, Study 2 results demonstrated that the BF-SGS shame and guilt scales have strong internal consistency, both within our whole sample as well as within the clinical BDD sample only. Within the clinical BDD sample, the strengths of correlations between the shame scale and other measures of body shame and body guilt, as well as general shame and general guilt, were in the expected directions. Therefore, within a BDD sample, BFSGS shame appears to assess body shame, more so than body guilt, and more so than generalized shame or guilt. Furthermore, as hypothesized, the BF-SGS shame scale's associations with BDD symptom severity were stronger than with OCD symptom severity, and scores on the shame scale were higher in the BDD group compared to the OCD group or the HC group, supporting the scale's discriminant validity. Finally, associations of the BF-SGS with BDD symptom severity appeared slightly stronger than those between BIGSS body shame and BDD symptom severity, lending support to its potential utility in assessing BDD-specific body shame within a clinical sample.

The BF-SGS guilt scale was included in the measure primarily to establish discriminant validity with the shame subscale. The BF-SGS guilt scale appeared to be slightly more strongly correlated with another measure of body guilt vs. body shame and demonstrated correlations of similar magnitude with measures of general guilt and general shame. Thus, the BF-SGS guilt scale may be somewhat less accurate at assessing body-specific guilt separately from body shame. As expected, however, the BF-SGS guilt scale was more strongly correlated with BDD symptoms than OCD symptoms within our BDD sample, and scores on the BF-SGS guilt scale were higher in the BDD group compared to the OCD group and the HC group. These results suggest that the BF-SGS guilt scale measures BDD-relevant guilt more so than guilt associated with other, similar forms of psychopathology.

Taken together, psychometric properties for the BF-SGS appear quite strong, with some potential limitations in its ability to distinguish between shame and guilt within the guilt scale.

General Discussion

Very scarce research has studied the role of shame within BDD. In large part, this may be because existing measures of body shame appear insufficient for capturing the type of body shame one would likely experience within the context of BDD. The present studies thus aimed to evaluate a new measure of BDD-relevant body shame. By focusing on shame regarding body parts, we intended to develop a tool that adds to the existing base of general shame measures and weight- and eating-based body shame measures. Furthermore, by developing a scenario-based measure, we aimed to create a methodologically strong self-report tool that captures individuals' shame-driven responses to potentially shame-inducing scenarios, without relying on individuals to knowledgeably distinguish and report their experiences of shame (as compared to guilt and externalization). While there is not a prominent, theoretically driven role of body guilt or externalization in BDD, we also included these subscales in the measure. The guilt and externalization subscales were included to provide a wider variety of response options beyond only shame-prone responses. Moreover, guilt items served as a way of establishing discriminant validity with shame items.

Across both an undergraduate sample and an Internet-recruited BDD sample, the measure demonstrated strong psychometric properties. Reliability was strong for all subscales of the BF-SGS across both studies. In addition, convergent and discriminant validity for the BF-SGS shame scale appeared very strong, and the measure demonstrated a consistent pattern of results across both the undergraduate and clinical samples. Moreover, the BF-SGS shame scale appeared to be at least as strong a measure of body shame as the BIGSS within the Study 1 undergraduate sample, and potentially a slightly stronger measure of BDD-relevant body shame than the BIGSS within the Study 2 BDD sample.

The BF-SGS guilt scale demonstrated some evidence of strong convergent and discriminant validity, as well as some areas of weakness. Across both samples, the BF-SGS guilt scale appeared somewhat less strong in distinguishing guilt specifically, and rather was similarly correlated with other measures of both shame and guilt. However, the BF-SGS guilt scale

did consistently demonstrate stronger associations with BDD symptoms compared to OCD symptoms, across both the undergraduate and clinical samples, suggesting that, while this subscale may capture a blend of moral emotions, it does appear to capture emotions specifically relevant to BDD. Further research in clinical samples can help determine the distinctiveness of these two subscales.

As the newly established psychometric properties of the BF-SGS shame scale are considered, some limitations to the present study should be kept in mind. First, while our two-study approach to establishing the BF-SGS' psychometric properties is a strength of the present research, our use of an Internet-recruited BDD sample to establish clinical norms has some limitations. Participants were not diagnosed through gold-standard, clinician-administered interviews, but rather through self-report measures chosen for their diagnostic validity. Thus, there may be systematic differences between our Internet-recruited clinical sample, and clinical samples recruited through in-person recruitment methods. In particular, an Internet-based recruitment approach precludes the ability to determine whether BDD participants' appearance flaws were imagined or slight, as diagnostic criteria require, or if they were true defects. On the other hand, using Internet recruitment may have allowed us to reach individuals with BDD who are housebound or who are not seeking treatment. If so, this may have yielded a sample with a broader range of symptoms, including highly impaired individuals. Additionally, it is possible that wording on certain items of the BF-SGS shows gender bias (e.g., item 11 includes the terms "outfit" and "flattering," which could be less strongly endorsed by men). Future research in samples with more equal gender distributions should examine whether gender differences exist in response style to the scale. Relatedly, future research using larger samples should examine differences in the measure based on ethnoracial characteristics or other demographics. Additionally, while the present research provides evidence of the reliability and construct validity of the BF-SGS, further research is needed to test whether the BF-SGS has clinical utility within the context of BDD.

Despite these limitations, the consistent evidence of strong psychometric properties across two studies suggests that the BF-SGS shame subscale may be useful in furthering our understanding of the role of body shame within BDD. In particular, the BF-SGS shame scale provides a tool to empirically evaluate clinical and theoretical speculation about the role of shame in BDD from a cognitive-behavioral (CB) conceptualization (as recommended by Weingarden & Renshaw, 2014). Furthermore, the measure can enable researchers to empirically evaluate the links between body shame vs. general shame and outcomes such as suicide risk, depression, and social and occupational dysfunction within individuals with BDD. Such research may shed light on body shame as a risk factor to these elevated poor outcomes in BDD. Finally, the BF-SGS shame scale may be helpful in determining whether body-relevant shame plays a role in BDD treatment. For example, it would be clinically useful to understand whether baseline differences in body shame predict responses to BDD treatment, and whether the degree of body shame changes with BDD treatment. In addition to these research applications, the BF-SGS may be a useful clinical tool. Specifically, if provided at the start of BDD treatment, the BF-SGS would inform clinicians about their patients' degree of shame, in comparison to clinical norms. Clinicians can use such information to guide decisions about the importance of addressing shame as a treatment target for individual patients. Moreover, the BF-SGS can be used to track whether patients'

shame-proneness responds to treatment over time. Taken together, the BF-SGS shame scale may provide a methodologically sound tool to expand our empirical understanding of the roles of body shame within BDD, as well as useful clinical tool when treating BDD patients with high levels of shame.

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Appendix: Body-Focused Shame and Guilt Scale

Below are some situations that people may encounter in day-to-day life, followed by several common reactions to these situations. As you read each scenario, try to imagine yourself in that situation. Then, indicate how likely you would be to react in each of the ways described. Please rate all responses for every item because you may feel or react in more than one way to the same situation, or you may react in different ways at different times.

1. Someone close to you expresses disappointment over your appearance

Very Unlikely	Somewhat Unlikely	Neither Likely nor Unlikely	Somewhat Likely	Very Likely
0	1	2	3	4

- (a) You would attribute this person’s disapproval to wrong priorities.
- (b) You would regret that you didn’t keep up with your efforts to maintain your appearance.
- (c) You would feel diminished in your image of yourself.

2. You go to the mall, and everybody seems better looking than you

Very Unlikely	Somewhat Unlikely	Neither Likely nor Unlikely	Somewhat Likely	Very Likely
0	1	2	3	4

- (a) You would think, “I should spend more time trying to improve my appearance.”
- (b) You would feel so awful that you’d want to hide.
- (c) You would think, “They don’t lead busy lives, so they are able to spend more time on their appearance.”

3. You are walking down the street and notice that people are glancing in your direction. You feel certain that they are judging your appearance

Very Unlikely	Somewhat Unlikely	Neither Likely nor Unlikely	Somewhat Likely	Very Likely
0	1	2	3	4

- (a) You would think, "They are just insecure."
 (b) You would think, "I should have taken more time on my appearance today."
 (c) You would think, "I'm so hideous, I should duck inside and hide."

4. You are at the beach, and you notice that everyone looks better than you

Very Unlikely	Somewhat Unlikely	Neither Likely nor Unlikely	Somewhat Likely	Very Likely
0	1	2	3	4

- (a) You would think, "These people are probably shallow and spend all of their time primping."
 (b) You would feel totally inadequate and stay covered up.
 (c) You would think, "I should have taken better care of my appearance."

5. At a family reunion, a relative asks about a blemish on your face

Very Unlikely	Somewhat Unlikely	Neither Likely nor Unlikely	Somewhat Likely	Very Likely
0	1	2	3	4

- (a) You would feel inferior and decide to leave the reunion as soon as possible.
 (b) You would think, "That person has always been inappropriate!"
 (c) You would regret that you had not made an appointment with the dermatologist.

6. Someone makes a negative comment about one of your body parts

Very Unlikely	Somewhat Unlikely	Neither Likely nor Unlikely	Somewhat Likely	Very Likely
0	1	2	3	4

- (a) You would feel so badly about yourself that you would wish you could become invisible.
 (b) You would think, "I shouldn't have worn clothes that showed this body part."
 (c) You would think, "That person is so insensitive."

7. While looking at pictures of models in a magazine

Very Unlikely	Somewhat Unlikely	Neither Likely nor Unlikely	Somewhat Likely	Very Likely
0	1	2	3	4

- (a) You would think, "I should have put more effort into taking care of my appearance."
- (b) You would think, "Those models probably have no life and no personality! They spend all their time looking perfect."
- (c) You would feel inadequate.

8. You are trying on clothes in a store and the assistant states that the clothes fit strangely on your body

Very Unlikely	Somewhat Unlikely	Neither Likely nor Unlikely	Somewhat Likely	Very Likely
0	1	2	3	4

- (a) You would feel as though you wanted the ground to open up and swallow you.
- (b) You would think, "I need to work harder so I fit into these clothes next time."
- (c) You would think, "The assistant is not very good at her job!"

9. You are watching a television show and notice that all the actors look perfect

Very Unlikely	Somewhat Unlikely	Neither Likely nor Unlikely	Somewhat Likely	Very Likely
0	1	2	3	4

- (a) You would think, "They've probably had plastic surgery!"
- (b) You would wonder if you should do something to change your appearance (work out more, purchase styling products, etc.).
- (c) You would feel worthless in comparison to these actors.

10. After working out at the gym you go to the locker room to change. Others come into the locker room and you get the sense that they are staring at you

Very Unlikely	Somewhat Unlikely	Neither Likely nor Unlikely	Somewhat Likely	Very Likely
0	1	2	3	4

- (a) You would think, “That’s so rude! They should mind their own business.”
- (b) You would feel inferior and rush to the bathroom stalls to hide.
- (c) You would regret that you hadn’t pushed yourself harder in the gym before ending your workout.

11. You are getting dressed for a party. You try on many different outfits while getting ready. When trying on each outfit, you feel dissatisfied

Very Unlikely	Somewhat Unlikely	Neither Likely nor Unlikely	Somewhat Likely	Very Likely
0	1	2	3	4

- (a) You would think, “I look so bad, I shouldn’t even go.”
- (b) You would think, “The styles that are popular right now are so ugly!”
- (c) You would think, “I should have gone shopping for something more flattering than the clothes I have.”

12. You are at a dinner party and the person sitting closest to you gives you one look and refuses to start a conversation

Very Unlikely	Somewhat Unlikely	Neither Likely nor Unlikely	Somewhat Likely	Very Likely
0	1	2	3	4

- (a) You would think, “This person is so boring! I can’t believe the hosts sat me here!”
- (b) You would think, “I should have dressed better – I need to work on looking nicer.”
- (c) You would think, “I wouldn’t want to talk to someone who looked like me either.”

13. You are at a bar where people are dancing, and no one has seemed interested in dancing with you

Very Unlikely	Somewhat Unlikely	Neither Likely nor Unlikely	Somewhat Likely	Very Likely
0	1	2	3	4

- (a) You would think, “They are uncomfortable dancing with anyone besides their date for the evening.”
- (b) You would think, “No one wants to be seen dancing with me because of how ugly I am.”

(c) You would think, “I should have tried harder to look nice tonight.”

Scoring: The Body-Focused Shame and Guilt Scale (BF-SGS) presents 13 scenarios. Each scenario is followed by three potential responses that correspond to the three subscales: body shame, body guilt, and externalization of blame. Below is a key that identifies which responses correspond to which subscale:

Body Shame: 1c; 2b; 3c; 4b; 5a; 6a; 7c; 8a; 9c; 10b; 11a; 12c; 13b

Body Guilt: 1b; 2a; 3b; 4c; 5c; 6b; 7a; 8b; 9b; 10c; 11c; 12b; 13c

Externalization of Blame: 1a; 2c; 3a; 4a; 5b; 6c; 7b; 8c; 9a; 10a; 11b; 12a; 13a

Citation: We welcome you to use this measure in your research. Please use this article’s citation to cite the measure.

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Table 1
Means (SDs) and Cronbach's alphas for Body Focused Shame, Guilt, Externalization Scales

Subscale	Study 1 T1	Study 1 T2	Study 2 Whole sample	Study 2 BDD sample	Study 2 OCD sample	Study 2 HC sample
	<i>M</i> (<i>SD</i>)	α	<i>M</i> (<i>SD</i>)	α	<i>M</i> (<i>SD</i>)	α
Shame	14.64 (11.52)	.92	13.52 (12.87)	.94	34.70 (12.01)	.93
Guilt	24.80 (11.51)	.90	24.29 (12.43)	.93	28.94 (13.36)	.93
External	22.94 (9.04)	.81	22.23 (10.55)	.89	21.60 (10.10)	.83
					22.23 (10.04)	.84
						21.70 (10.56)
						.82
						.87

Table 2

Item-Total Correlations for Shame and Guilt Subscales

Subscale	Item	Study 1 T1 <i>r</i>	Study 1 T2 <i>r</i>	Study 2 Whole Sample <i>r</i>	Study 2 BDD Sample <i>r</i>
Shame	1c.	.50	.68	.67	.39
	2b.	.67	.81	.82	.75
	3c.	.72	.80	.82	.74
	4b.	.67	.66	.76	.64
	5a.	.59	.68	.73	.70
	6a.	.78	.82	.85	.80
	7c.	.65	.73	.76	.66
	8a.	.72	.80	.82	.69
	9c.	.75	.82	.81	.67
	10b.	.74	.77	.81	.74
	11a.	.66	.76	.80	.65
	12c.	.44	.71	.70	.64
	13b.	.55	.75	.80	.70
Guilt	1b.	.50	.59	.69	.63
	2a.	.62	.75	.75	.67
	3b.	.70	.74	.74	.65
	4c.	.67	.73	.79	.72
	5c.	.50	.52	.62	.52
	6b.	.65	.76	.73	.58
	7a.	.65	.78	.79	.70
	8b.	.60	.65	.71	.64
	9b.	.69	.75	.77	.66
	10c.	.62	.74	.74	.67
	11c.	.46	.63	.52	.34
	12b.	.60	.55	.71	.55
	13c.	.63	.71	.78	.67

Table 3

Correlations between BF Shame Subscale and Other Shame and Guilt Measures

Study	Scale	BIGSS-S	TOSCA-S	BIGSS-G	TOSCA-G
Study 1 T1	BF-Shame	.78***	.55***	.55***	.07
	BF-Guilt	.69***	.47***	.66***	.17**
Study 2 BDD sample	BF-Shame	.72***	.51***	.45***	.19
	BF-Guilt	.62***	.33***	.70***	.32**

Note. BF-Shame = Body Focused Shame Scale; BF-Guilt = Body Focused Guilt Scale BIGSS-S = Body Image Guilt and Shame Scale – Shame Subscale; BIGSS-G = Body Image Guilt and Shame Scale – Guilt Subscale; TOSCA-S = Test of Self-Conscious Affect-4 – Shame Subscale; TOSCA-G = Test of Self-Conscious Affect-4 – Guilt Subscale.

*
 $p < .05$.

**
 $p < .01$.

 $p < .001$

Table 4

Correlations between Body Shame Scales and Measures of BDD, OCD, and General Anxiety Symptom Severity

Study	Scale	BDD Y-BOCS	OCI-R
Study 1 T1	BF-Shame	.64***	.26***
	BF-Guilt	.53***	.23***
	BIGSS-Shame	.63***	.21***
	BIGSS-Guilt	.47***	.30***
Study 2			
BDD sample	BF-Shame	.39***	.02
	BF-Guilt	.28*	-.02
	BIGSS-Shame	.30*	-.07
	BIGSS-Guilt	.17	.01

Note. BF-Shame = Body Focused Shame Scale; BIGSS-S = Body Image Guilt and Shame Scale – Shame Subscale; BDD Y-BOCS = Yale-Brown Obsessive Compulsive Scale modified for BDD; OCI-R = Obsessive Compulsive Inventory-Revised; DASS Anxiety = Depression Anxiety Stress Scale 21-Item Version, anxiety subscale.

*
 $p < .05$.

**
 $p < .01$.

 $p < .001$.