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Exploring Associations Between Social Appearance Anxiety, External Shame and Body Dissatisfaction

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Abstract

Body dissatisfaction (BD) is a subjective dissatisfaction of the shape or size of one's own body and is well supported as a risk factor for many adverse outcomes such as depression, eating disorders and reduced quality of life. Social appearance anxiety (SAA) is a negative social evaluative fear which is concerned specifically regarding one's physical appearance. SAA has been positively associated with BD in previous research, however the mechanism by which this relationship operates has been unclear. The current study aimed to explore this relationship further and investigate if external shame – or judgement of oneself as perceived to be seen through the eyes of others – may mediate this association, as shame has been associated with both SAA and BD. N = 243 multinational participants, including 70 males and 173 females, aged ranging from 18 to 72 years old were recruited from the general population through snowball sampling methods and social media. Participants completed an online questionnaire assessing measures of social appearance anxiety, body dissatisfaction and external shame. Results indicated that higher SAA is associated with more BD; higher SAA is associated with more external shame; external shame does not mediate the SAA-BD relationship, but has a slight suppressing effect on BD. Suggestions for further research include exploring gender differences in the SAA-ES-BD effect, and testing longitudinal models involving adolescents and social physique anxiety as a variable.

Key words: social appearance anxiety, external shame, body dissatisfaction, body image

Exploring Associations Between Social Appearance Anxiety, External Shame and Body Dissatisfaction

Body image is a multidimensional construct with both positive and negative values and is an important aspect of the lives of many young men and women (Tylka, 2011). Body dissatisfaction (BD) is a negative feature of body image and can be described as a subjective dissatisfaction with the shape or size of the body (Stice & Shaw, 2002). Although gender differences in body image concerns are apparent (Knauss et al., 2007), some level of BD is highly prevalent in both sexes (Griffiths et al., 2016) and been reported to increase gradually over time in both males and females through adolescence and into adulthood (Bucchianeri et al., 2013). BD is well-supported as a risk factor for development of eating disorders (Jacobi et al., 2004), and has also been associated with several adverse outcomes such as depression, withdrawal from social situations, restrictive dieting, and reduced quality of life (Mond et al., 2013; Paxton et al., 2006). Given the role of BD as a risk factor for psychological distress and the substantial evidence for its negative outcomes, it is imperative to understand the mechanisms by which this significant public health problem is sustained.

A key feature in the development of body dissatisfaction is its reinforcement in the social context (Paquette & Raine, 2004). Theoretical frameworks such as social comparison theory (Festinger, 1954) and objectification theory (Frederickson & Roberts, 1997) emphasize the importance of the social aspect to developing body dissatisfaction. For example, comparing one's own appearance to the appearance of others has been found to negatively affect one's body image and be associated with increased body dissatisfaction (Myers & Crowther, 2009). This can be explained by Festinger's (1954) social comparison theory, which proposes that in order to achieve accurate self-appraisals, individuals have a drive to compare themselves to others who

are similar to them – if then this comparison is not favorable, body dissatisfaction can arise. The objectification theory supports the finding that for some people, social situations – including those in which a body-related comparison occurs – can create anxiety (Frederickson & Roberts, 1997; Dittmar & Howard, 2004). Individuals with social anxiety experience repetitive negative thoughts arising from exposure to social situations and an extremely heightened fear of negative evaluation from others (Levinson & Rodebaugh, 2015). In this manner, social anxiety may be a crucial factor in the development of BD through means of social comparison. This theory is supported by several studies that confirm this relationship, whereby higher levels of social anxiety are associated with more BD and maladaptive appearance schemas in both clinical and non-clinical samples in both males and females (Dakanalis et al., 2015; Bijsterbosch et al., 2020; Coles et al., 2006; Pinto & Phillips, 2005; Aderka et al., 2014;).

A recent study by Bijsterbosch and colleagues (2020) found that social anxiety may be implicated in the development of BD. However, the authors argue that social anxiety has many components, and perhaps a more specific construct encompassing social anxiety related to appearance may be the driving element in the social anxiety-BD relationship. Indeed, recent research has worked towards defining this social-anxiety element, and Hart and colleagues (2008) first coined the concept of social appearance anxiety (SAA). SAA is described as a negative social evaluative fear which is focused specifically regarding one's physical appearance rather than negative social evaluation. For example, SAA considers one's own evaluation of how attractive they think they appear to others, how judged they feel based on their appearance and their flaws, and how uncomfortable this makes them feel. (Hart et al., 2008; Levinson & Rodebaugh, 2012). SAA was conceptualized as a specific situational fear and a construct to account for the frequent overlap in negative body image and social anxiety. Although SAA is a

relatively new concept, there is sufficient empirical evidence to support a relation between SAA and BD. Levinson & Rodebaugh (2012) investigated the relationship between these constructs in a sample of undergraduate males and females and results indicated that SAA was a unique predictor of BD over and above fear of scrutiny, social interaction anxiety, and fear of positive evaluation. Supplementary research into the SAA-BD relationship in a sample of undergraduate women found that individuals who were high in trait SAA and those who were in a manipulated-SAA condition group reported the highest levels of BD, as compared to controls (Levinson & Rodebaugh, 2015). Furthermore, these findings can be supported by Claes and colleagues (2012), who also found evidence for this association in female eating disorder (ED) patients, whereby SAA was found to be positively related to BD. The connection between SAA and BD is evident based on these empirical findings, however there is a gap in the literature considering the mechanisms by which the SAA-BD relationship operates.

Frederickson & Roberts' (1997) objectification theory suggests that a missing component in this mechanism may be shame. Shame is an enduring emotion that involves negative attributions which are generalized to the global self (Tangey et al., 1996). The objectification theory proposes that body comparison increases levels of anxiety and shame, which when accumulated may lead to negative body image and mental health outcomes (Frederickson & Roberts, 1997). Furthermore, as body image is largely developed in the social context (Paquette & Raine, 2004), body dissatisfaction may arise from the anxiety and shame produced from body comparison in the social environment. Thus, shame may be the missing factor implicated in the development of BD, whereby SAA affects BD through increased levels of shame. It is in the interest of the present study to investigate if shame may play a key role in the SAA-BD

relationship, as shame has been associated with both BD and social anxiety in research (Mustapic et al., 2015; Grabhorn et al., 2006).

Supporting the relationship between shame and social anxiety, Gilbert & Miles (2000) posit that shame and social anxiety are interconnected in that if people see a negative social outcome (such as rejection or criticism) as due to their own inferiority, they have a tendency to blame themselves. This relationship is supported in research, for example: Hedman et al. (2013) found that shame is associated with social anxiety in individuals with social anxiety disorder (SAD) and observed that persons with SAD exhibited much higher levels of shame than controls without SAD. Shame can be categorized into two distinct domains: internal shame, which is focused specifically on the judgment of the self as seen by the self; and external shame, which is regarding judgement of oneself as perceived to be seen through the eyes of others (Gilbert, 2007). Grabhorn (2006) proposes that as external shame is predominantly fixated on the experience of the self through the eyes of others, it must consequently always come with a fear of negative social evaluation – which provides a critical link to define its role in social appearance anxiety. Research into external shame and SAA is limited, however based on the above observations, the social aspect of external shame appears to present it as the most fitting construct to suit the proposed model.

Concerning the relationship between external shame and BD, there is evidence to suggest a promising association between the two. Knauss and colleagues (2008), when testing a model to fit objectification theory, found that body shame partially mediated the role between body surveillance and BD. These findings suggest a role of shame as an influence in the development of BD, however a model involving social anxiety as a predictor has not yet been studied. Other research has shown a positive association between shame and BD; however, the

specific mechanisms have not been clear. Sanftner and colleagues (1995) investigated this relationship and determined shame to be positively associated with BD in a sample of undergraduate women. Most studies pertaining to the shame-BD relationship have been specifically focused on the development of eating disorders – which have been described as BD in its most extreme form (Bijsterbosch et al., 2020). For example, one recent study indicated that body shame and BD may have a connection in the development of ED symptomology, (Mustapic et al., 2015) and results of Ferreira and colleagues' (2013) study suggest a relationship between shame and BD in increasing risk for some ED symptoms. Research into the relationship between BD and external shame is bare, however this leaves an opening for the present study's investigation.

As external shame involves a distressing awareness of negative social evaluation from others (Thibodeau et al., 2011), higher levels of social appearance anxiety are likely to increase this feeling of judgement in the social context (Hedman et al., 2013). When considering the importance of social context and social comparison in the development of body dissatisfaction (Myers & Crowther, 2009), the experience of appearance-related social anxiety combined with the social deprecation of external shame may, in turn, progress to body dissatisfaction. Furthermore, as there is substantial evidence for a relationship between SAA and BD (Levinson & Rodebaugh, 2015; Levinson & Rodebaugh, 2012; Claes et al., 2012) and a gap in the literature regarding the mechanisms by which this relation proceeds, it may be possible that this association is indirect and, in fact, mediated by external shame. To ensure that findings are representative of the general population, the current study intends to explore the relationship between these variables regardless of sex, with a specific focus on the evaluation of the proposed

mediation model. The aim of the present study is to investigate for a mediating role of external shame on the relationship between social appearance anxiety and body dissatisfaction.

Hypotheses

1. Higher SAA will be associated with more BD

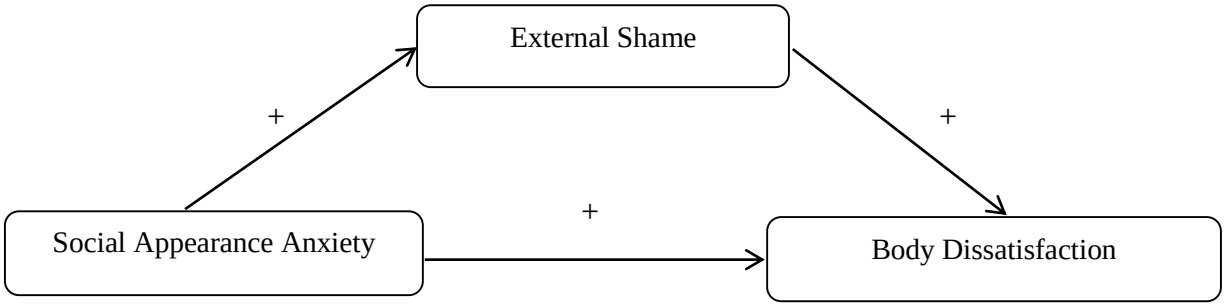
2. SAA will be positively associated with ES

3. ES will be positively associated with BD

4. ES will mediate the relationship between SAA and BD

Figure 1

Proposed Mediation Model



Method

Ethical approval was granted by the Ethics Committee of the Faculty of Social and Behavioural Sciences of Utrecht University. As this study was not including clinical samples, further ethical approval by the Medical Ethics Committee was not required. Questionnaires and

consent forms were administered online using Qualtrics software programme (Qualtrics software, 2018). Data analysis required use of G*Power 3 software (Faul et al., 2007), IBM SPSS Statistics 26 and PROCESS for SPSS v3.3 (Hayes, 2017).

Participants

A priori power analyses were conducted using G*Power 3 (Faul et al., 2007) to determine the minimum number of participants required to achieve significant results for a mediation analysis. This calculation determined that to achieve statistical significance in the present study, with a desired power of 0.8 and in order to achieve a moderate effect size of 0.39, a minimum of 59 participants would be required. Fritz & Mackinnon (2007) report that in order to achieve statistical significance with a desired power of 0.8 and a moderate effect size of 0.39 for percentile bootstrapping methods of mediation analysis, a total of 78 participants would be required. The proposed number of participants to account for both estimates was 78.

A total of 307 participants were recruited via social media, snowball sampling and through online messaging groups for master's students in Utrecht University, The Netherlands. Prior to beginning the online questionnaire, participants were required to read an informed consent form and, if they chose to state that they give consent by selecting the appropriate box, they could move forward with their participation. The questionnaire included demographic questions and the measures listed below.

Prior to analysis the data was cleaned and then scored according to the instructions of each individual scale. A total of 307 responses were recorded initially, however 64 of these were incomplete and were excluded to resolve the issue of missing data, leaving a total of 243 participants (N = 243). No outliers were detected within two standard deviations of the mean for

any of the three variables – so all data were included. The final sample included 70 male participants and 173 females, aged between 18 and 72 years.

Measures:

Body Dissatisfaction

Body dissatisfaction was measured using the Body Dissatisfaction (BD) subscale in the Eating Disorder Inventory-2 (EDI-2) (Garner, 1991). The BD subscale consists of 9 items, all which assess levels of discontentment with the overall shape or size of the body areas which can typically be of particular concern to individuals with EDs (e.g. hips, thighs, stomach). Example items are: *I think my thighs are too large; I like the shape of my buttocks; I think my stomach is too big.* The items are scored on a 6-point Likert scale, with the "less dissatisfied" responses based on the question phrasing (i.e. never, rarely, sometimes) getting no score, or a score of 0; and the next three items (i.e. often, usually, always) getting scores of 1, 2 and 3 respectively and towards the "most dissatisfied" response – for negatively phrased items. For positively phrased items, this score system is reversed. Scores are summed with higher scores indicating higher body dissatisfaction. Score means from this study were compared to those found in Hamel & colleagues' (2012) study, where the healthy control group, $M = 7.48$, $SD = 5.52$, differed extensively from a clinical eating disorder group, $M = 14.72$, $SD = 6.79$. The EDI-2 is an appropriate measure of body dissatisfaction in both males and females (Gleaves et al., 2014), and the body dissatisfaction subscale demonstrated good internal consistency in this study, $\alpha = 0.887$.

Social Appearance Anxiety

Social appearance anxiety was measured using the Social Appearance Anxiety Scale (SAAS) (Hart et al., 2008). The SAAS is a single factor, 16-item scale assessing fear of negative

evaluation from others based on one's appearance, including but not limited to the body. The SAAS is scored on a 5-point Likert scale concerning how characteristic each statement is to the participant, ranging from *1=not at all* to *5=extremely.* Example items are: *I am concerned people would not like me because of the way I look; I feel nervous when having my picture taken; I worry that a romantic partner will/would leave me because of my appearance.* Higher SAAS scores indicate higher levels of fear. Dakanalis and colleagues (2015) found significant differences in SAAS scores for both males and females who had previously been treated for an eating disorder, M = 54.40, SD = 11.76, as compared to healthy controls, M = 40.14, SD = 16.01 – against which the current studies scores were compared. The SAAS has demonstrated good test-retest reliability, r = .84 (Hart et al., 2008), and excellent convergent and divergent validity with self-report measures of trait anxiety and self-esteem (Levinson & Rodebaugh, 2011). In this study the SAAS showed to be highly reliable based on internal consistency, α = 0.953.

External Shame

External shame was measured using the External and Internal Shame Scale (EISS) (Ferreira et al., 2020). The EISS is an 8-item scale designed to assess both internal and external shame, with questions evaluating features of shame in 5 domains: *inferiority/inadequacy*, *sense of isolation/exclusion*, *usefulness/emptiness*, and *criticism/judgement*. Example items from the external shame subscale include: *In relation to several aspects of my life, I feel that... other people see me as not being up to their standards; other people see me as uninteresting; other people are judgmental and critical of me*. Scored on a 5-point Likert scale, ranging from *0=never* to *4=always*, summed scores of both constructs demonstrate global shame scores. The external shame subscale of the EISS is a suitable instrument to measure external shame (Ferreira et al., 2020). As no cut-off scores are instructed, this study compared means with those found in

a sample of males and females from the general population by Ferreira and colleagues (2020), *M* = 5.90, *SD* = 3.20. The EISS has demonstrated good internal consistency in research and good concurrent validity (Ferreira et al., 2020). In the present study, the external shame subscale of the EISS showed acceptable internal consistency, $\alpha = 0.728$.

Data Analysis

Assumptions of normality were tested for, and Shapiro-Wilk results for all three variables showed that data was not normally distributed, $p < 0.05$. Further inspection revealed that none of the three variables exceeded a skewness of ±1.0, nor did they exceed a kurtosis level of ±2.0, which falls within the acceptable range for a normal distribution (George and Mallery, 2016). For this reason, and as there were no outliers detected, it was deemed to be acceptable to continue to conduct simple and hierarchical regression analyses.

Pearson product-moment correlations between the study variables were calculated. A mediation analysis was then conducted with SAA as a predictor, ES as a mediator and BD as the outcome. First, in order to estimate the effect of SAA on ES, simple linear regression was calculated. Second, hierarchical regression analysis was conducted to estimate total effect of SAA (Step 1) and the direct effect of SAA as well as ES (Step 2) on BD. Finally, the indirect effect of SAA on BD through ES was calculated through bootstrap analyses with 5,000 bootstrap samples (Hayes, 2018). This was achieved using PROCESS for SPSS v3.3 (Hayes, 2017). Furthermore, as bootstrapping methods to not require data to be normally distributed, this method was especially useful for the study sample.

Results

Descriptive statistics and Pearson correlations

Descriptive statistics of the study variables are reported in Table 1. Sample means were representative of samples from healthy control groups of previous studies (Ferreira et al., 2020; Dakanalis et al., 2016; Hamel et al., 2012). Pearson product-moment correlations showed that total BD scores were significantly positively correlated with total scores for both SAA and ES with moderate effect sizes. Total scores for SAA were also significantly positively correlated with total ES scores with a large effect size, $r = 0.687$ Pearson correlation coefficients are displayed in Table 1.

Table 1

Descriptive Statistics and Pearson Product-Moment Correlations

Variable	M	SD	Frequency	%	1.	2.	3.
Age:	25.31	6.475	-	-	-	-	-
1. BD:	8.93	7.132	-	-	1	0.681**	0.384**
2. SAA:	40.14	15.446	-	-	0.681**	1	0.687**
3. ES:	6.69	3.00	-	-	0.384**	0.687**	1

Note. (*N* = 243) SAA = social appearance anxiety; ES = external shame, BD = body dissatisfaction

**. Correlation is significant at the p < 0.01 level (2-tailed).

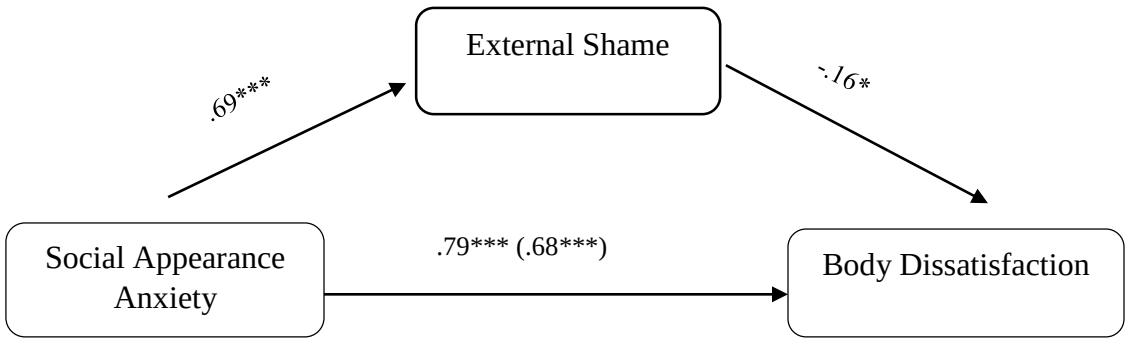
Total, Direct, and Indirect effects of Social Appearance Anxiety on Body Dissatisfaction Through External Shame

Results of the mediation analysis are presented in Figure 2**.** Results of the simple regression analysis revealed a significant positive effect of SAA on ES, which indicates that more SAA is associated with more ES. A total of 47.2% of the variance in ES could be explained by SAA, F (1, 241) = 215.34, $p < .001$.

Results of the hierarchical regression analysis revealed in Step 1 a significant positive total effect of SAA on BD, and in Step 2 a significant positive direct effect of SAA on BD. These results indicate that more SAA is associated with increased BD, before and after controlling for ES. Furthermore, Step 2 revealed and a significant negative effect of ES on BD, indicating that more ES is associated with decreased BD, and contrary to the third hypothesis (see Figure 2). In Step 1, a total of 47.7% of the variance in BD can be explained by SAA, F (1, 240) = 6.10, $p = .014$. In Step 2, a total of 46.4% of the variance in BD can be explained by SAA and ES, F (1, 241) = 208.63, $p < .001$.

Figure 2

Results of Mediation Analysis



Note. Results of the regression analyses displayed as standardized regression coefficients. The total effect derived from Step 1 is displayed in parentheses.

***p < 0.001. *p < 0.05.

The bootstrap analysis revealed a negative indirect effect of social appearance anxiety on body dissatisfaction through external shame, *B* = -.11, 95% CI [-.20, -.03]. These results suggest that, in fact, no mediation is present, but rather they reveal a slight suppressive effect of ES on BD, which can be seen in the direct effect being larger than the total effect (Mackinnon et al., 2000). This indicates that the introduction of ES actually reduces – rather than explains – SAA-related BD, contrary to the man hypothesis of this study.

Discussion

The objective of this study was to explore the relationships between social appearance anxiety, external shame and body dissatisfaction, and to investigate if social appearance anxiety had an indirect effect on body dissatisfaction mediated by external shame. The first hypothesis of this study proposed that higher SAA would be associated with more BD, which was supported by the results. This finding is consistent with current research (Levinson & Rodebaugh, 2015; 2012; Dakanalis et al., 2015; Bijsterbosch et al., 2020), and it can be deduced that higher levels of SAA may increase BD in non-clinical populations and independent of sex. As BD is associated with many negative outcomes such as depression and eating pathology (Paxton et al., 2006; Rosewall et al., 2018), early-intervention may be beneficial in prevention or reduction of these issues (Stice & Shaw, 2002). These findings add support to previous literature and suggest

that individuals with heightened BD may benefit from interventions targeting social anxiety specifically regarding one's appearance.

The second hypothesis of this study proposed that SAA would be positively associated with external shame, which, as expected, was supported by the data and is consistent with research into the relationship between shame and social anxiety (Hedman et al. 2013). This result is also in line with Grabhorn's (2006) observation that external shame must always be accompanied with negative social evaluative fear – a fear which the present study's findings suggest is social appearance anxiety, and universal to both sexes.

The third hypothesis of this study was, in contrast to expectations, not supported by the data. External shame appears to be negatively associated with body dissatisfaction in the study sample, indicating that higher levels of external shame actually reduced levels of body dissatisfaction. This result is surprising, and not in line with existing literature (Mustapic et al., 2015; Sanftner et al., 1995). These results indicate that individuals who have higher levels of body dissatisfaction may actually benefit from external shame.

Contrary to the fourth hypothesis (and primary interest) of this study, the findings of this investigation reveal that while social appearance anxiety does have a significant positive effect on body dissatisfaction, this relationship cannot be explained by its positive effect on external shame. Results of the mediation analysis indicate that external shame has a slight *suppressive* effect – rather than a mediating effect – on the SAA-BD relationship, and the removal of external shame as a mediator actually increases the magnitude of the SAA-BD association (Mackinnon et al., 2000; Paulhus et al., 2004). In other words, individuals who are experiencing SAA-related BD may actually feel some relief from the introduction of external shame. A possible explanation for this result lies in the potential for external shame to elicit a dissociative coping

strategy, or a distraction to reduce levels of body dissatisfaction in this sample. Higher levels of dissociation have been linked to body dissatisfaction and eating disturbances in non-clinical samples (De Berardis et al., 2009; Fuller-Tyszkiewicz & Mussap, 2008); and a direct causal relationship has been found between shame and dissociation, whereby dissociation appears to be an automatic response to the activation of shame, regardless of distinction between external and internal (Dorahy et al., 2017). It may be possible that the present study's findings illustrate an avoidance strategy whereby individuals who have increased SAA-related BD focus on the emotion of external shame as this allows them to dissociate from the distressing reality of their body dissatisfaction. In this manner, external shame may also be beneficial in that its focus lies on the perceived opinions of others, which may be less painful than confronting the harsh self-criticism of body dissatisfaction. Further research in this area would be valuable.

This study certainly has its strengths and its limitations, for example: a strong point of this study is its sample size, which is considerably larger than the recommended 78 participants (Fritz & MacKinnon, 2007), and which provides a smaller margin of error and more accurate mean values to the study variables. Another strength of the present study was the decision not to exclude or distinguish individuals by age, nationality, history of psychological disorders or gender to ensure that the sample was representative of the general population and add to the generalizability of the study. Although gender differences are apparent in BD research, excluding males from the data would result in the sample mostly consisting of female university students of psychology, a group which are known to have high rates of BD (Trautmann et al., 2007), and would have a unique insight into psychological theory and mechanisms. Hence, results for this sample would be biased and unrepresentative of the general population. However, although for the purpose of this study it was deemed appropriate not to distinguish by sex, this may also be a

limitation given the considerable gender differences in body image concerns (Knauss et al., 2007). A follow-up study to explore the suppressive effect of external shame on SAA-related body dissatisfaction which compares males and females may be beneficial to discern if these different concerns affect the results. Another limitation is that the direction of causality between the variable associations cannot be known due to the cross-sectional design, and although positive associations were found between SAA and BD, and SAA and external shame, further longitudinal research is necessary to understand the direction of these associations.

As mentioned, gender differences in body dissatisfaction research are evident in research (Brennan et al, 2010; Knauss et al., 2007). For example, males tend to be more concerned with a *drive for mascularity* (Thompson & Cafri, 2007), rather than women who tend to experience a *drive for thinness* (Knauss et al., 2007). Recommendations for future research are to investigate gender differences in the SAA-ES-BD relationship. Moreover, an intriguing concept for further exploration may be to consider testing a model including *social physique anxiety* (SPA), rather than social appearance anxiety. SPA refers to anxiety regarding the shape and composition of the body, rather than one's overall appearance, as in SAA. While there is evidence to support SPA's relationship with BD in both sexes it must be considered that with different body image-related concerns, males and females may also experience negative evaluative social fears with regard to their image. Thus, as SPA's focus specifically targets the social anxiety regarding the musculature form and shape of the body, this may be a more suitable construct to account for the male experience. A study investigating a model as such may be a beneficial contribution to the literature. Another suggestion would be a longitudinal study exploring this model in adolescents. BD is seen to increase throughout these years (Bucchianeri et al., 2013), and it would be interesting to see if the use of external shame as an avoidance strategy is learned with this

increase and if gender differences exist, as adolescent females are more likely to turn to ruminative coping whereas males have been found to steer towards distracting coping strategies (Broderick, 1998).

This study was the first of its kind to explore the relationship between SAA, external shame and BD, and although the hypothesized mediation model was disproven, these findings provide some substance to a gap in the literature and offer a basis for further research into the mechanisms of body dissatisfaction. These findings suggest that individuals with high levels of body dissatisfaction and external shame may benefit from interventions targeting social appearance anxiety, and that external shame may be used as a dissociative coping strategy to reduce body dissatisfaction. Further directions for this research include exploration of models involving social physique anxiety, gender differences and longitudinal studies with adolescents.

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Appendix A

Social Appearance Anxiety Scale (Hart et al., 2008)

Instructions: Read each item carefully and indicate how characteristic it is of you according to the following scale.

1 = Not at all characteristic of me; 2 = Slightly characteristic of me; 3 = Moderately characteristic of me; 4 = Very characteristic of me; 5 = Extremely characteristic of me

1.	I feel comfortable with the way I appear to others	1	2	3	4	5
2.	I feel nervous when having my picture taken	1	2	3	4	5
3.	I get tense when it is obvious people are looking at me	1	2	3	4	5
4.	I am concerned people would not like me because of the way I look	1	2	3	4	5
5.	I worry that others talk about flaws in my appearance when I am not around	1	2	3	4	5
6.	I am concerned people will find me unappealing because of my appearance	1	2	3	4	5
7.	I am afraid that people find me unattractive	1	2	3	4	5
8.	I worry that my appearance will make life more difficult for me	1	2	3	4	5
9.	I am concerned that I have missed out on opportunities because of my appearance	1	2	3	4	5
10.	I get nervous when talking to people because of the way I look	1	2	3	4	5
11.	I feel anxious when other people say something about my appearance	1	2	3	4	5
12.	I am frequently afraid I would not meet others' standards of how I should look	1	2	3	4	5
13.	I worry people will judge the way I look negatively	1	2	3	4	5
14.	I am uncomfortable when I think others are noticing flaws in my appearance	1	2	3	4	5
15.	I worry that a romantic partner will/would leave me because of my appearance	1	2	3	4	5
16.	I am concerned that people think I am not good looking.	1	2	3	4	5

Scoring: Item 1 is reversed. Total SAA is then calculated by summing total score.

Appendix B

External and Internal Shame Scale: External Shame Subscale (Fereirra et al., 2020)

Instructions: Below are a series of statements about feelings people may usually have, but that might be experienced by each person in a different way. Please read each statement carefully and circle the number that best indicates how often you feel what is described in each item.

0 = Never; 1 = Rarely; 2 = Sometimes; 3 = Very Often; 4 = Always

"In relation to several aspects of my life, I feel that..."

1.	Other people see me as not being up to their standards	0	1	2	3	4
2.	Other people don't understand me	0	1	2	3	4
3.	Other people see me as uninteresting	0	1	2	3	4
4.	Other people are judgmental and critical of me	0	1	2	3	4

Scoring: Total external shame is calculated by summing all scores.

Appendix C

Eating Disorder Inventory-2: Body Dissatisfaction Subscale (Garner, 1991)

Instructions: Read each item carefully and indicate if the item is true of you according to the following scale:

1 = Never; 2 = Rarely; 3 = Sometimes; 4 = Often; 5 = Usually; 6 = Always

1.	I think that my stomach is too big	1	2	3	4	5	6
2.	I think that my thighs are too large	1	2	3	4	5	6
3.	I think that my stomach is just the right size	1	2	3	4	5	6
4.	I feel satisfied with the shape of my body	1	2	3	4	5	6
5.	I like the shape of my buttocks	1	2	3	4	5	6
6.	I think my hips are too big	1	2	3	4	5	6
7.	I think my thighs are just the right size	1	2	3	4	5	6
8.	I think my buttocks are too large	1	2	3	4	5	6
9.	I think that my hips are just the right size	1	2	3	4	5	6

Scoring: Items 3, 4, 5, 7 and 9 are reversed. Likert choices “1”, “2” and “3” then receive scores of 0, and Likert choices “3”, “4” and “5” then receive scores of 1, 2, and 3, respectively. Total body dissatisfaction is calculated by summing total scores.

Appendix D

Information Letter

19/10/2020 Utrecht University

Dear Sir/Madam,

We invite you to take part in our study "*Understanding Relations Between Body Image and Shame*", as part of the MSc in Clinical Psychology for Utrecht University.

Purpose of this study

To investigate cultural and gender differences in the relationship between body image and shame.

What is expected of you as a participant

Demographic data regarding age, gender and which country you are from will be collected, followed by a series of questionnaires regarding body image and shame. This study is non-invasive, and will involve completion of 5 questionnaires, which is estimated to take around 10-15 minutes.

Confidentiality of data processing

The results of this study may be published, and the data collected may be used for further research that might have another purpose. Personal data will remain confidential and will be stored separately from the research data. Research data will be stored for at least 10 years and personal data will be stored for as long as is necessary for the purpose for which it is collected. This data is only accessible by the researchers involved in the study.

Possible advantages and disadvantages

Advantages include being part of a meaningful study with possible implications for further research. We don't envisage any disadvantages of taking part in this study, however if you feel subsequently distressed, contact details will be included at the end of this information sheet.

Voluntary Participation

Participation in this study is completely voluntary, and can be withdrawn from at any point without reason or consequences. If you do wish to withdraw consent, the data that has been collected up to that point may still be used.

Contacts:

If you have any questions or comments about this study, please contact Ciara Sorensen (c.a.c.sorensen@Students.uu.nl) or Valerie Leckebusch (v.leckebusch@students.uu.nl).
For formal complaints regarding this study please contact the complaints officer at: klachtenfunctionaris-fetcsocwet@uu.nl

This study is supervised by Dr. Lot Sternheim and Jojanneke Bijsterbosch.

If you decide to take part in this study, please tick the consent box below.

With kind regards,
Valerie Leckebusch & Ciara Sorensen

Declaration of Consent

I hereby declare that I am over 18 years old, I have read the information letter about the "Understanding Relations Between Body Image and Shame" study and agree to participate in the study. [/] *tick*