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## Shame, depressive symptoms and eating, weight and shape concerns in a non-clinical sample

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## Abstract

Shame has been shown to be related both to symptoms of depression and eating pathology. However, the independence of this relationship has not yet been established. The purpose of the present study was to determine whether the relationship between shame and eating disorder symptoms was independent of the relationships of these variables with depression. Seventy non-clinical female participants completed measures of eating disorder related concerns using the Eating Disorder Examination - Questionnaire version (EDE-Q), depressive symptoms using the Beck Depression Inventory (BDI-II) and two measures of shame, the Other As Shamer Scale (OAS) and the Test of Self-Conscious Affect (TOSCA). Despite a strong association between BDI-II and EDE-Q scores and a moderate relationship between the shame measures, the two measures of shame showed some specificity in their relationships with symptom measures. The OAS was independently related to levels of BDI-II scores while the TOSCA was independently related to scores on the EDE-Q. There are a number of differences between the two measures of shame used in this study. The fact that each was differentially related to eating concerns and depressive symptoms may give clues as to which aspects of shame are important in each of the two types of pathology.

## Introduction

Shame is an emotion concerned with the regulation of social behavior and has been conceptualized in a number of ways. For example, in his evolutionary model of shame, Gilbert (1) argues that shame is a consequence of evaluating the self in relation to a real or imagined audience where the individual perceives him or herself to be inferior or of low social rank. Thus shame involves a perception of negative evaluation by more powerful others. Tangney (2, 3), however, emphasizes shame as an emotion resulting from a perception that the entire self has failed to live up to an internalised set of standards and that the self, therefore, is bad or morally defective. Since shame generally implies that the self is flawed, it tends to lead to avoidance and feelings of helplessness, although one could argue that the same behaviors and feelings are also likely to result from a perception of negative evaluation by more powerful others. Thus, while it is agreed that shame is an emotion of social comparison (4), the latter view emphasizes the self as inadequate whereas the former emphasizes the self as inferior. Although somewhat distinct, the two are likely to be related.

A number of studies have found that shame is strongly related to depression (e.g. 5, 6, 7) although there have been some conflicting results. For example, in a sample of depressed patients, shame was not related to severity of depression (8). Similarly a number of studies have shown that shame is also related to eating disorder symptoms (e.g. 9, 10) although there is currently some debate as to whether eating disorder symptoms are related to shame in general or shame that is specifically related to eating and the body (11).

Despite findings that shame is related to both depression and eating disorder symptoms, no study has yet evaluated whether these relationships are unique or due simply to an overlap between depressive and eating disorder symptoms. The present study is an attempt to address this issue.

## Method

### *Participants*

Participants were 70 female students and office personnel representing a response rate of exactly 50%. The sample had a mean age of 27.0 years (s.d. 5.9, range 20 to 56) and mean body mass index (BMI) of 21.9kg/m<sup>2</sup> (s.d. 3.1, range 17.2 to 31.2).

### *Measures*

**Beck Depression Inventory-II (BDI-II: 12):** This measure of depressive symptoms is a modification of the original BDI with changes to some items that bring it more into line with the current DSM-IV (13). Higher scores indicate higher levels of depression and internal reliability in the present sample was 0.90.

**Eating Disorders Examination-Questionnaire (EDE-Q: 14):** This is the questionnaire version of a semi-structured interview designed to diagnose eating disorders according to DSM-IV (13). The questionnaire includes sub-scales for restraint, eating concern, weight concern and shape concern as well as a number of diagnostic items. For the purposes of the present report only the total EDE-Q score (sum of the four sub-scales) will be used. Higher scores indicate greater restraint and concerns over eating, weight and shape and internal reliability in the present sample was 0.94.

**Other as Shamer Scale (OAS: 15):** This is an 18-item scale to assess how the respondent imagines that others perceive him/her. This scale was developed to tap the view of shame that it is as if the self is observed and is deemed unworthy, reprehensible and of low social rank. Items are rated on a 5-point Likert scale from 0 to 4 with higher overall scores indicating higher levels of shame. Internal reliability in the present sample was 0.91. Sample items are “Other people put me down a lot” and “Other people see me as small and insignificant”.

**Test of Self-Conscious Affect (TOSCA: 16):** This is a scenario-based measure in which participants are asked to rate the likelihood of responding in each of a number of ways to 15 common everyday situations. Items are rated on a 5-point Likert scale from 1 to 5 and sub-scales include proneness to shame, proneness to guilt, externalization of blame, detachment/unconcern, alpha pride (pride in self) and beta pride (pride in behavior). For the purposes of this report, only the shame sub-scale is used and will be referred to as TOSCA-S. Shame is assessed by summing responses that are consistent with a view of shame in which the entire self is seen as flawed and where the behavioral tendencies are of avoidance and helplessness. Thus, for the scenario “You make a big mistake on an important project at work. People were depending on you and your boss criticizes you” the level of shame is determined by the score on the response “You would feel like you wanted to hide”. Higher scores indicate a higher shame-proneness and the internal reliability in the present sample was 0.79.

*Ethical consideration*

This study was approved by the Psychology Departmental Ethics Committee at London Guildhall University and adhered to the Ethical Guidelines published by the British Psychological Society. All participants gave their informed consent and anonymity was assured.

## Results

Means and inter-correlations between BDI-II, EDE-Q and measures of shame are presented in Table 1. Mean EDE-Q scores are well within the non-clinical range and, indeed, only 3 of the 70 participants (5.2%) scored above the cut-off of 4 that indicates a possible eating disorder. Mean BDI-II scores also place this sample in the non-depressed range and the OAS and TOSCA-S means are similar to those reported in other non-clinical samples.

Table 1. about here

BDI-II scores are highly related to EDE-Q scores although the relationship between the two shame measures is a little lower (although still highly significant).

Interestingly the OAS is more strongly related to BDI-II scores than is the TOSCA-S while the TOSCA-S is more strongly related to EDE-Q scores than is the OAS.

Regression analyses were carried out to determine the degree to which OAS and TOSCA-S measures of shame predict scores on the EDE-Q and BDI-II. In predicting eating, weight and shape concerns, the shame measures accounted for a total of 33% of the variance in EDE-Q scores ( $R^2 = 0.33$ ,  $F[2, 69] = 16.17$ ,  $p < 0.001$ ) with the two

shame measures making independent and significant contributions (OAS,  $\beta = 0.31$ ,  $t = 2.67$ ,  $p < 0.05$ ; TOSCA-S,  $\beta = 0.35$ ,  $t = 3.05$ ,  $p < 0.005$ ). In predicting depressive symptoms, the shame variables accounted for a total of 37% of the variance in BDI-II scores ( $R^2 = 0.37$ ,  $F[2, 69] = 20.01$ ,  $p < 0.001$ ). Scores on the OAS were highly significantly predictive of BDI-II scores although scores on the TOSCA-S fell marginally short of conventional levels of significance (OAS,  $\beta = 0.48$ ,  $t = 4.27$ ,  $p < 0.001$ ; TOSCA,  $\beta = 0.22$ ,  $t = 1.95$ ,  $p = 0.055$ ).

Having established that both shame variables are predictive of both EDE-Q and BDI-II scores and that scores on these two measures are themselves correlated, partial correlations were performed to determine whether shame's association with one set of symptoms was independent of its relationship with the other set of symptoms. Table 2 shows that, after partialling out BDI-II scores, EDE-Q scores are only significantly correlated with the TOSCA-S while, after partialling out EDE-Q scores, BDI-II scores are only significantly correlated with the OAS.

Table 2. about here

## Discussion

The present study sought to determine whether shame was independently associated with depressive symptoms and eating disorder-related concerns or whether shame's previously reported association with one set of symptoms was due to its association with the other. Results suggest that, consistent with previous reports, shame is related to both depression and eating disorder-related concerns with shame (as measured by the OAS) and shame-proneness (as measured by the TOSCA) making independent

contributions. However, partial correlations revealed that OAS shame is uniquely related to depressive symptoms (partialling out eating disorder-related concerns) while TOSCA shame-proneness is uniquely related to eating disorder-related concerns (partialling out depressive symptoms).

Although our sample is a non-clinical sample with BDI-II and EDE-Q scores in the non-pathological range, it is possible to speculate on the implications of our findings to those with frank depressive and eating disorders (although clearly caution is warranted in extrapolating too far from non-clinical to clinical samples). For example, the specificity in the relationship between shame measures and symptoms may give clues as to which aspects of shame are important in depression and which are important in eating pathology. There are a number of differences between the two shame measures that may indicate what these specific aspects may be. Firstly, the OAS was explicitly developed to measure shame conceived of as reflecting an individual's emotional response to a perception of the self in relation to some real or imagined audience and where the self is seen to be down rank and inferior (1). The TOSCA-S, on the other hand, was developed by Tangney et al. (16) who view shame as a perception that the self is flawed, bad or morally defective, having failed to live up to an internalized set of standards. Thus, in depression the focus may be on perceived inferiority whereas in eating pathology the focus may be on perceived inadequacy. However, many of the items in Tangney et al.'s (16) measure that tap avoidance and helplessness would also likely be endorsed by someone who perceives herself to be down rank and inferior.

A related possibility is that, in addition to measuring perceptions of relative rank (OAS) versus feelings and behavior (TOSCA-S), it may be that the OAS can be considered *other-focused* whereas the TOSCA-S is *self-focused*. Perhaps eating pathology is related simply to considerations of the self whereas depressive symptoms are more associated with the self in relation to others. Yet another possibility is that the OAS measures current perceptions of how others see the self whereas the TOSCA-S asks about the likelihood of certain responses in hypothetical scenarios. As such the OAS is a more direct measure of the experience of shame while the TOSCA-S is a measure of shame-proneness or the tendency to experience shame rather than a measure of the degree to which shame is experienced currently. Thus, perhaps depressive symptoms are more strongly related to the experience of shame while eating pathology is more strongly related to the tendency to experience shame rather than any current shame feelings.

Whichever of the above possibilities truly accounts for the specificity in the relationship between shame measures and symptoms of depression and eating disorder-related concerns awaits further research. Clearly, however, this result also needs to be replicated in clinical samples. In addition, the precise nature of the role of shame in eating disorders also needs to be determined. For example, shame-proneness may represent a vulnerability to developing the disorder, it may be a scar resulting from having the disorder or it may even form part of the phenomenology of an eating disorder.

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Table 1. Means and correlations between depression, eating pathology and shame

	Mean	s.d. [range]	EDE-Q	OAS	TOSCA-S
BDI-II	9.2	7.6 [0, 34]	0.63***	0.58***	0.45***
EDE-Q	1.7	1.2 [.1, 5.6]		0.48***	0.50***
OAS	22.2	9.7 [6, 66]			0.49***
TOSCA-S	43.3	8.8 [27, 64]			

BDI-II = Beck Depression Inventory; EDE-Q = Eating Disorder Examination-Questionnaire; OAS = Other As Shamer scale; TOSCA-S = Test of Self-Conscious Affect shame subscale

\*\*\*  $p < 0.001$

Table 2. Partial correlations between shame and symptoms

	EDE-Q (partialling BDI-II)	BDI-II (partialling EDE-Q)
OAS	0.18	0.41***
TOSCA-S	0.32**	0.20

BDI-II = Beck Depression Inventory; EDE-Q = Eating Disorder Examination-Questionnaire; OAS = Other As Shamer scale; TOSCA = Test of Self-Conscious Affect shame sub-scale

\*  $p < 0.05$

\*\*  $p < 0.01$

\*\*\*  $p < 0.001$