Brief Report

Explicit and implicit shame aversion predict symptoms of avoidant and borderline personality disorders

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ARTICLE INFO

ABSTRACT

Research on the connections between shame and personality disorders (PDs) has focused predominantly on *shame proneness*. We examined the relationships of *shame aversion*, or experiencing shame as painful and unbearable, with avoidant and borderline personality disorders. Participants completed self-report measures assessing avoidant and borderline PDs, shame aversion, shame proneness and general experiential avoidance, as well as the recently developed questionnaire-based implicit association test that assessed shame aversion. Self-reported and implicit shame aversion correlated with both PDs, and hierarchical regression models showed that shame aversion incrementally predicted these PDs over and above shame proneness and general experiential avoidance. These findings suggest that individuals who perceive shame as particularly aversive tend to resort to maladaptive behavioral patterns that may impair personality functioning.

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1. Introduction

Shame is a difficult emotion to contain, and it has been suggested that adopting maladaptive shame regulation strategies is central in the development of certain personality disorders (PDs; Schoenleber & Berenbaum, 2010). For example, based on current diagnostic criteria (APA, 2013), the pervasive pattern of social inhibition, which is the essential behavioural feature of avoidant personality disorder (APD), results primarily from hypersensitivity to negative evaluation and rejection. Hostile acts and self-harming behavior under emotional distress are other strategies that may be used to cope with the experience of shame by individuals suffering from borderline personality disorder (BPD), as maladaptive means of regulating shame and replacing it with aggression towards the self (Schoenleber, Berenbaum, & Motl, 2014).

Studies that examined the associations between shame and a variety of psychiatric pathologies have focused on *shame proneness*, which is the tendency to experience shame readily and often across different situations (Tangney et al., 1992). However, Schoenleber and Berenbaum (2010, 2012) showed that shame proneness does not fully explain the complicated influences of shame on psychological functioning, and suggested that *shame aversion*, or experiencing shame as particularly painful and unbear-

able, specifically plays a key role in the relationship between shame proneness and certain types of psychopathology.

In this study, we examined the relationships between shame and PD-related traits, assessed based on the multidimensional trait system that has been proposed in the DSM-5 (APA, 2013; Krueger, Derringer, Markon, Watson, & Skodol, 2012). Specifically, we attempted to distinguish the unique role of shame aversion from two closely-related constructs, shame proneness and general experiential avoidance (EA; Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). EA is the broader unwillingness to remain in contact with distressing negative experiences, which has been linked to a wide range of psychopathologies.

Although people have insight into their motives for behaving in particular ways, introspection and self-knowledge are known to be partial and inaccurate (Wilson, 2009), and self-report assessment may be biased for a variety of reasons (Nunnally & Bernstein, 1994). Therefore, we also measured shame aversion implicitly, in addition to the standard self-report explicit assessment. To do that, we used the questionnaire-based implicit association test (qIAT; Yovel & Friedman, 2013). The qIAT, which uniquely enables an indirect measurement of psychological constructs tapped by standard self-report questionnaires, provides an implicit assessment that is based on the original items of such instruments. Using explicit and implicit measures of shame aversion, we expected this construct to be related to traits of avoidant and borderline PDs above and beyond shame proneness and general experiential avoidance.

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2. Method

2.1. Participants

Based on an a priori power analysis, we needed a sample of at least 134 participants to detect Pearson correlation coefficients that represent a medium effect size (e.g., between parallel implicit and explicit measures; see Hofmann, Gawronski, Gschwendner, Le, & Schmitt, 2005) with alpha levels set at 0.05 and a power of 0.80. The initial sample included 198 consenting English-Speaking American residents (114 females) between the ages 18 and 75 years ($M = 38.28$, $SD = 12.58$), most (62%) with an academic degree, who were recruited via Amazon's Mechanical Turk platform and received $1.5 for their participation. Twenty participants (10.1%) were excluded from the analyses due to excessive speed (more than 10% of the trials < 300 ms) or high error rate (20% or more) in the qIAT (cf. Greenwald, Nosek, & Banaji, 2003). Final analyses were based on the remaining 178 participants (109 females).

2.2. Personality measures

2.2.1. Explicit measures

Shame-Aversive Reactions Questionnaire (ShARQ; Schoenleber & Berenbaum, 2010). The ShARQ is a measure of shame aversion that includes 14 items (seven reversed; alpha = 0.91 in the current study).

Test of Self-conscious Affect-3 (TOSCA-3; Tangney, Dearing, Wagner, & Gramzow, 2000). The TOSCA-3, which includes 16 brief scenarios, measures proneness to shame and guilt. After each scenario, participants are provided with two statements, one reflects a shame response and the other reflects a guilt response, and are asked to rate the degree to which they would experience each response on a 1–5 scale. In the present study, internal consistency was good for both the shame (alpha = 0.85) and the guilt (alpha = 0.81) subscales.

Brief Experiential Avoidance Questionnaire (BEAQ; Gámez et al., 2013). The BEAQ is a 15-item scale (one reversed item) that measures broad unwillingness to experience negative emotions (alpha = 0.90 in the present study).

Personality Inventory for DSM-5 (PID-5)-Adult (Krueger et al., 2012). The PID-5, which operationalizes the currently proposed model for PDs in DSM-5, originally has 220 items assessing 25 primary traits and five higher order factors reflective of personality pathology. In the current study, 91 items were used to assess APD and BPD (American Psychiatric Association, 2013). Scoring for each PD was calculated using the items comprising the trait scales associated with it: Anhedonia, Anxiousness, Intimacy Avoidance and Withdrawal for APD (33 items, alpha = 0.95); Anxiousness, Depressivity, Emotional Lability, Hostility, Impulsivity, Risk Taking and Separation Insecurity for BPD (67 items, alpha = 0.95). Cronbach's alphas for the trait scales ranged between 0.86 (for Hostility) and 0.96 (for Depressivity).

2.2.2. Implicit measure

The questionnaire-based implicit association test (qIAT; Yovel & Friedman, 2013) is a brief classification task that allows implicit measurement of self-report questionnaires. Here, this task implicitly assessed shame aversion, employing the items of the ShARQ. On each trial a sentence was presented, and participants needed to classify it as quickly as possible, using two designated respond keys. In Block 1 (40 trials), the personality categories were introduced, labeled *Shame-Sensitive Person* versus *Self-Accepting Person*, each including seven non-reversed or reversed ShARQ items, respectively. In Block 2 (20 trials), the self-related logical cate-

gories were introduced, labeled *true* (e.g., "*I'm participating in an experiment in psychology*") versus *false* (e.g., "*I'm outside playing ball*"), each including five items. In Block 3 (20 trials) and 4 (40 trials), participants matched these categories interchangeably (e.g., *Shame-Sensitive Person* with *true* versus *Self-Accepting Person* and *false*). In Block 5 (40 trials) they practiced the reversed classification of the personality categories, and in Blocks 6 and 7 (second double categorization) they again classified the sentences based on both categories, this time using the reversed trait classification (e.g., *Self-Accepting Person* and *true* versus *Shame-Sensitive Person* and *false*). The order of the double-categorization blocks was randomized across participants, as was the order of the items within each block. Reaction times were recorded using Macromedia Flash 10.0 Professional software (2005). For each participant we calculated a *D* score (i.e., the standardized difference between the mean scores in blocks 3 and 4 vs. 6 and 7; Greenwald et al., 2003), and higher *D* scores represented higher levels of shame aversion.

2.3. Procedure

After completing a consent form, participants completed the self-report questionnaires: ShARQ, TOSCA-3, BEAQ and the PID-5, using Qualtrics software (Qualtrics, Provo, UT). Participants were then redirected to complete the qIAT on a different website built specifically for the present study. Since a carryover effect was likely from the implicit measure (in which the same items were presented several times) to the self-report measure of shame aversion, the self-report scales were administrated first (cf. Yovel & Friedman, 2013). The self-report ShARQ was administered second in all cases, to allow the completion of two other questionnaires before the completion of the ShARQ-based qIAT task. The order of the administration of the other questionnaires was randomized across participants.

3. Results

The total scores for the two PDs in the present non-clinical sample ranged between 1.03–3.76 for APD (M = 1.95, SD = 0.59) and between 1.10–3.17 for BPD (M = 1.80, SD = 0.42), and they correlated strongly with each other, $r = 0.66$ (*p*'s < 0.001 for all *r*'s, unless otherwise specified).[1]

We first examined the psychometric properties of the implicit qIAT measure of shame aversion. Internal consistency of the qIAT was tested by computing the Pearson correlation between the *D* score based on the practice blocks (Block 3 and Block 6) and the *D* score based on the critical blocks (Block 4 and Block 7; see Greenwald et al., 2003), which was $r = 0.51$. Supporting the convergent validity of the implicit assessment of shame aversion, the qIAT *D* score correlated with the parallel self-reported ShARQ ($r = 0.28$). The qIAT score also correlated with APD, $r = 0.21$, $p = 0.005$, and with BPD, $r = 0.20$, $p = 0.007$, thus showing that implicit shame aversion is related to both these PD's.

We next examined the correlations of APD and BPD with the explicit measures. The total APD score correlated with the explicit measures of shame aversion (ShARQ), $r = 0.55$, shame proneness (TOSCA Shame), $r = 0.48$, general experiential avoidance (BEAQ), $r = 0.59$, but not with guilt proneness (TOSCA Guilt) $r = -0.09$, $p = 0.20$. The total BPD score correlated with the explicit measures of shame aversion, $r = 0.54$, shame proneness, $r = 0.32$, general experiential avoidance, $r = 0.53$, and it correlated negatively with guilt proneness, $r = -0.26$.

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[1] The total scores of these PD's share a single PID trait scale (Anxiousness). The correlation between them excluding this scale was $r = 0.43$.

To examine whether the explicit and implicit measures of shame aversion added incrementally to the prediction of APD and BPD beyond general experiential avoidance and shame proneness, two separate hierarchical regression models were tested, in which the predicted variables were the total scores of these PD's. In both models, the BEAQ was entered in the first step, TOSCA-3 Shame in the second step, ShARQ in the third step and the qIAT score in the fourth step. In Step 1 the BEAQ alone explained a significant and sizable portion of the variance of both PDs (see Tables 1 and 2). In Step 2, the TOSCA-3 Shame predicted an additional significant increment of the variance of APD, but that was not the case with BPD. More importantly, the measure of shame aversion, the ShARQ, predicted a significant increment of the variance of both APD and BPD in step 3. In step 4, the qIAT implicit measure of shame aversion did not add significantly to the prediction of either PD. These results indicate that self-reported shame aversion incrementally predicts symptoms of APD and BPD over and above both general experiential avoidance and shame proneness.

In a follow-up exploratory analysis, we computed a series of partial correlations to examine which of the PID-5 traits that define APD and BPD were similarly predicted by self-reported shame aversion, above and beyond shame proneness and general experiential avoidance. Results indicated that controlling for the BEAQ and the TOSCA-3 Shame, the ShARQ correlated with Anhedonia, $r = 0.19$, $p = 0.012$, Anxiousness, $r = 0.30$, Depressivity, $r = 0.31$, Hostility, $r = 0.28$ and Separation Insecurity, $r = 0.15$, $p = 0.046$, but not with Risk Taking, $r = 0.05$, $p = 0.524$, Emotional Lability, $r = 0.09$, $p = 0.224$, Impulsivity, $r = 0.10$, $p = 0.174$, Intimacy Avoidance, $r = 0.01$, $p = 0.920$ or Withdrawal, $r = 0.12$, $p = 0.105$. The parallel zero-order correlations and the correlations among the predicting variables can be found in the online supplement.

4. Discussion

Shame is an unpleasant and counterproductive emotion that involves the subjective experience of the self as defective, and it has been associated with many types of psychological disorders, including PDs (Schoenleber et al., 2014). Typically, research on shame has focused on shame proneness, which is the tendency to experience shame readily and often across different situations (Tangney et al., 1992). Here we focused on *shame aversion* (i.e., experiencing shame as particularly unbearable; Schoenleber & Berenbaum, 2010), and found that both explicit and implicit measures of this construct were related to symptoms of avoidant and borderline PDs. Moreover, self-reported (but not implicit) shame aversion incrementally predicted both these PDs over and above shame proneness and general experiential avoidance.

Experiential avoidance is the general unwillingness to remain in contact with internal and external experiences that are perceived as unpleasant (Hayes et al., 1996), while shame aversion focuses specifically on this negative emotion. The measures of these two constructs correlated here strongly with each other, and indeed both reflect reluctance from being open to experiencing all types of feelings. Still, the current results show that shame aversion is particularly important in understanding the nature of avoidant and borderline PDs, above and beyond the non-specific aversion to negative experiences.

The present findings also challenge the focus on shame proneness as the sole aspect of shame (cf. Schoenleber & Berenbaum, 2010). While both shame proneness and shame aversion reflect the role shame has in the individual's life, the latter specifically inclines perceiving shame as highly unpleasant, and it was found here to be uniquely predictive of symptoms of both APD and BPD. Moreover, shame proneness did not add significantly to experiential avoidance alone in predicting BPD, while shame aversion incrementally contributed to the prediction of this PD over and above both these measures. Thus, rather than the frequency in which shame is experienced, perceiving this emotion as particularly painful and undesirable appears to motivate people to adopt maladaptive regulation strategies associated with PD symptoms (Schoenleber & Berenbaum, 2012).

In addition to standard self-report assessment, shame aversion was measured here by an implicit assessment procedure, the recently developed qIAT (Yovel & Friedman, 2013). Research on PDs is based almost exclusively on self-report assessment, despite the well-known problems and difficulties associated with relying on individuals' willingness and capability to know and share personal aspects of themselves (e.g., Wilson, 2009). This ability for introspection has been shown to be particularly lacking when concerning emotional regulation strategies developed early in life, as is often the case with individuals who adopted pathological patterns to avoid experiencing shame (Ganellen, 2007). The implicit measure of shame aversion correlated with symptoms of both avoidant and borderline PDs, suggesting that the associations

Table 1
A Hierarchical regression model predicting PID-5 measure for APD.

Steps	Predictors	R	ΔR^2	β	t
Step 1		0.59[***]	0.35[***]		
	BEAQ			0.59	9.82[***]
Step 2		0.64[***]	0.06[***]		
	BEAQ			0.47	7.30[***]
	TOSCA-3 Shame			0.26	4.06[***]
Step 3		0.66[***]	0.03[**]		
	BEAQ			0.36	4.83[***]
	TOSCA-3 Shame			0.21	3.16[**]
	ShARQ (explicit)			0.22	2.98[**]
Step 4		0.66[***]	0.00		
	BEAQ			0.36	4.78[***]
	TOSCA-3 Shame			0.21	3.16[**]
	ShARQ (explicit)			0.23	2.97[**]
	qIAT (implicit)			-0.01	-0.19

Note: PID-5 = Personality Inventory for DSM-5; APD = avoidant personality disorder; BEAQ = BEAQ = Brief Experiential Avoidance Questionnaire; TOSCA-3 = Test of Self-Conscious Affect; ShARQ = Shame-Aversive Reactions Questionnaire; qIAT = questionnaire-based implicit association test.
[**] p < 0.01.
[***] p < 0.001.

Table 2
A hierarchical regression model predicting PID-5 measure for BPD.

Steps	Predictors	R	ΔR^2	β	t
Step 1		0.53[***]	0.28[***]		
	BEAQ			0.53	8.31[***]
Step 2		0.54[***]	0.01		
	BEAQ			0.48	6.79[***]
	TOSCA-3 Shame			0.10	1.43
Step 3		0.59[***]	0.06[***]		
	BEAQ			0.31	3.92[***]
	TOSCA-3 Shame			0.02	0.30
	ShARQ (explicit)			0.33	4.11[***]
Step 4		0.59[***]	0.00		
	BEAQ			0.31	3.84[***]
	TOSCA-3 Shame			0.02	0.29
	ShARQ (explicit)			0.33	4.06[***]
	qIAT (implicit)			0.01	0.12

Note: PID-5 = Personality Inventory for DSM-5; BPD = borderline personality disorder; BEAQ = Brief Experiential Avoidance Questionnaire; TOSCA-3 = Test of Self-Conscious Affect; ShARQ = Shame-Aversive Reactions Questionnaire; qIAT = questionnaire-based implicit association test.
[***] p < 0.001.

between personality pathology and this construct cannot be attributed solely to any biases associated with self-report assessment.

The implicit qIAT measure of shame aversion correlated with the parallel explicit measure and it predicted PD symptoms, but it did not add incrementally to the prediction of PD symptoms over and above the standard self-report questionnaires. Perhaps it should not be surprising considering the method overlap here, as all predicted variables were also based on self-report measures (Bornstein, 2002). Future studies will hopefully test the added utility of the implicit measurement of shame aversion by attempting to predict behavioral criteria associated with PDs, as research suggests that indirect assessment is particularly useful in incrementally predicting non-intentional behaviors, such as gestures or changes in performance (Greenwald, Poehlman, Uhlmann, & Banaji, 2009). Another notable limitation of the current study is the focus on traits associated only with APD and BPD. Thus, it is not possible to conclude anything regarding the specificity of the current findings to these PD's, and additional research is needed in order to examine other types of personality pathology. Still, the results of the exploratory follow-up analysis seem to suggest that shame aversion is particularly related to certain PD-related traits (e.g., Anxiousness, Depressivity) but not to others (e.g., Risk Taking).

In conclusion, the present results show that shame aversion, assessed both implicitly and explicitly, is related to traits associated with avoidant and borderline PDs, and that self-reported shame aversion uniquely predicts symptoms of these PDs over and above the frequency of experiencing shame and the non-specific aversion and reluctance to experience negative emotions in general. Taken together, these findings suggest that this construct should play a more prominent role in the research into the connections between shame and personality pathology.

Appendix A. Supplementary material

Supplementary data associated with this article can be found, in the online version, at http://dx.doi.org/10.1016/j.jrp.2017.08.006.

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