

Shame on Me: Implicit Assessment of Negative Moral Self-Evaluation in Shame-Proneness

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Tobias Rothmund¹ and Anna Baumert^{1,2}

Abstract

In two experimental studies, we used a moral self-evaluation implicit association task to investigate reactions to personal moral transgressions. In Study 1, negative self-evaluation was higher after participants had been blamed for being late to the experiment compared to a control condition. In Study 2, participants imagined committing either (a) a moral transgression or (b) no moral wrongdoing. In the transgression condition, negative self-evaluation was increased compared to the control condition. This effect was particularly pronounced among participants high in dispositional shame-proneness. Moreover, in the transgression condition, negative moral self-evaluation mediated the effect of shame-proneness on the preference for physical cleansing products. The present findings contribute to a better understanding of the cognitive and affective processes that underlie moral motivation.

Keywords

moral psychology, implicit measures, shame, guilt, individual differences, moral self-regulation

Personal violations of moral standards can trigger a variety of reactions in humans, for example, apologizing, providing compensation, denying a wrongdoing, or withdrawing from the situation. Looking at the underlying psychological processes, stable individual tendencies to display specific types of reactions have been distinguished. Guilt-proneness and shame-proneness have been investigated as individual inclinations toward different cognitive, affective, and motivational reactions to personal transgressions (Tangney, Stuewig, & Mashek, 2007). In the present article, we focus on negative self-evaluation in the moral domain as a psychological reaction that can add to further differentiation of the processes that underlie shame-proneness and guilt-proneness. More precisely, we tested the assumption that negative moral self-evaluation could be assessed using an implicit measure and that this implicit measure would tap into a unique component of the psychological processes related to shame-proneness.

The Role of Self-Evaluation in Moral Self-Regulation

In his social cognitive theory of self-regulation, Bandura (1991, 2001) argued that self-evaluation is key in moral motivation. According to this theory, anticipating or committing personal transgressions leads to affective reactions (guilt and shame) that motivate moral behavior. These affective reactions have been termed *self-conscious moral emotions* because they reflect self-evaluation (Tangney et al., 2007). However, the focus and scope of self-evaluation are assumed to differ between guilt and shame reactions (although these reactions are

highly correlated). Whereas shame reactions reflect a negative evaluation of the global moral self, guilt reactions imply a negative evaluation of a specific behavior (Lewis, 1971; Tracy & Robins, 2004). There is empirical support for the proposed distinctions between guilt and shame based on the object of appraisal (Tangney et al., 2007). For example, Tracy and Robins (2006) demonstrated that shame reactions are more likely to occur when personal transgressions are attributed to internal and stable causes, whereas guilt reactions are more likely to occur when personal wrongdoings are attributed to internal but unstable causes. Due to these different objects of appraisal, shame and guilt motivate different behavioral reactions (Niedenthal, Tangney, & Gavanski, 1994). Guilt has been shown to trigger problem-based coping strategies directed at the reparation of a transgressive action and the restoration of internalized moral standards (e.g., Yi & Baumgartner, 2011). By contrast, shame promotes emotion- and avoidance-oriented coping strategies aimed at restoring a positive self-view and protecting the self from further harm. In five experimental studies, de Hooge, Zeelenberg, and Breugelmans (2010) provided

¹ Department of Psychology, University of Koblenz-Landau, Germany

² School of Psychology, University of Western Australia, Perth, Australia

Corresponding Author:

Tobias Rothmund, Department of Psychology, University of Koblenz-Landau, Fortstrasse 7, 76829 Landau, Germany.

Email: rothmund@uni-landau.de

empirical support for this assumption and showed that shame motivates behavioral reactions to repair or protect a threatened self.

As indicated above, stable individual differences in people's proneness to experience shame as well as in their proneness to experience guilt have been proposed (Tangney, Youman, & Stuewig, 2009). In line with the theoretical distinctions between shame and guilt with regard to causal attributions, shame-proneness (but not guilt-proneness) has been shown to correlate with a self-derogating attributional style (Lutwak, Panish, & Ferrari, 2003; Pineles, Street, & Koenen, 2006). Moreover, Giner-Sorolla, Piazza, and Espinosa (2011) presented empirical data demonstrating that in the face of moral transgressions, shame-proneness is related to self-critical emotional reactions, whereas guilt-proneness predicts reparative actions. Based on these findings, it is plausible to assume that shame-proneness but not guilt-proneness reflects the degree to which people react with negative moral self-evaluations when anticipating or committing an immoral act. We argue that negative self-evaluation can in turn explain the tendency of shame-prone individuals to engage in behaviors that are aimed at restoring a positive self-view.

Automaticity in Self-Regulation

As Tangney et al., (2007) explain, "self-evaluation may be implicit or explicit, consciously experienced or transpiring beneath the radar of our awareness" (p. 347). However, automatic processes have thus far been neglected in studies investigating self-evaluation in shame and guilt reactions. The importance of automatic and intuitive processes for moral emotion, motivation, and judgment has been stressed by Haidt and Joseph (2008) and received support in empirical research (e.g., Giner-Sorolla, 2012; Hofmann & Baumert, 2010). Although Bandura (1991, 2001) did not distinguish between automatic and reflective processes, it seems highly plausible that the proposed processes of moral self-regulation can function rapidly and without the involvement of cognitive control. In line with dual-process models of information processing and behavior, automatic negative self-evaluation can be assumed to explain unique shares of the variance of behavioral reactions to personal transgressions over and above the impact of reflective processes (e.g., Back, Schmukle, & Egloff, 2009).

In order to gain insight into the automatic processes that underlie moral motivation, there is a need for implicit assessment methods. Although studies have indicated that under some conditions, even implicit assessment methods (e.g., implicit association task [IAT]) capture both automatic and controlled processes, there is still reason to assume that the responses on these measures are more difficult to control than on explicit self-report measures (for a detailed discussion, see de Houwer, Teige-Mocigemba, Spruyt, & Moors, 2009).

In the realm of moral psychology, Gray, Brown, MacCulloch, Smith, and Snowden (2005) employed an IAT and showed that convicted psychopathic murderers displayed more positive implicit evaluations of violence than nonpsychopathic

murderers. Even more importantly in the present context, Perugini and Leone (2009) assessed implicit moral self-evaluations to predict the individual propensity to resist a moral temptation.

The Present Research

In the present research, we employed an IAT measure of moral self-evaluation in order to investigate automatic reactions after personal norm transgressions. Specifically, our studies were designed to lend further support to the notion that shame-proneness (and not guilt-proneness) involves a negative evaluation of the moral self. We tested three hypotheses. First, we hypothesized that negative moral self-evaluation as a reaction to a personal moral transgression could be assessed using an implicit measure (Hypothesis 1). Second, we expected that negative moral self-evaluation would be particularly pronounced in shame-prone (compared to less shame-prone) individuals. By contrast, this reaction was expected to be independent of the individual's level of guilt-proneness (Hypothesis 2). Third, we hypothesized that negative moral self-evaluation would mediate the relation between shame-proneness and the motivation to restore a threatened self. Importantly, negative moral self-evaluation as assessed with an implicit measure was expected to uniquely explain motivational reactions of shame-prone (compared to less shame-prone) individuals over and above self-reported shame and guilt reactions (Hypothesis 3).

Study 1

The aim of Study 1 was to test whether a personal moral transgression would elicit negative self-evaluations as assessed with an implicit measure (Hypothesis 1).

Method

Sample and Design

Fifty-six undergraduate students (age: $M = 21.3$; $SD = 4.5$; 73% female) participated in this experiment in return for course credit. The study used a one-factor (blaming of transgression: *yes vs. no*) design.

Procedure

Participants were recruited on campus for a study ostensibly investigating cooperation in a dyadic interaction. One participant was scheduled at a time. All participants were told that another participant would be scheduled at the same time and that they should arrive exactly on time to be fair to the other participant.

At the beginning of the laboratory session, participants were welcomed to the laboratory where the experimenter and a confederate were already waiting. Participants were randomly assigned to one of the two experimental conditions (*transgression/control*). In the transgression condition, the experimenter

Table 1. Means, Standard Deviations, and Correlations of the Dependent Variables in Study 1.

	Transgression Condition		Control Condition		(1)	(2)	(3)	(4)	(5)	(6)
	M	SD	M	SD						
1. PANAS positive affect	3.32	0.85	2.99	0.76	.86 ^a	-.28	-.21	-.31*	-.12	.16
2. PANAS negative affect	2.80	1.06	2.00	0.77	.89 ^a	.84**	.75**	-.23	-.26	
3. Negative self-oriented moral emotions	2.78	1.44	1.60	1.09		.69 ^a	.49**	-.16	-.24	
4. Negative other-oriented moral emotions	2.34	1.26	1.69	0.69			.79 ^a	.25	-.19	
5. Moral self-evaluation IAT	0.46	0.28	0.60	0.20				.78 ^a	-.20	
6. General self-esteem	3.10	0.54	3.19	0.55						.89 ^a

Note. IAT = implicit association task; PANAS = Positive and Negative Affect Schedule.

Emotional self-report ratings were made on 6-point scales (1 = *not agree at all*, 6 = *fully agree*). Self-esteem ratings were made on a 4-point scale (1 = *not at all*, 4 = *absolutely*). Correlations were calculated independent of the experimental conditions.

^aInternal consistency as an estimator of reliability.

* $p < .05$. ** $p < .01$.

told the participant that he or she was 15-min late and that the other participant (the confederate) had been waiting for that period of time. Next, the participant was seated in front of a computer station. The confederate asked the experimenter whether he or she could make a phone call before the experiment began. The call was made from a mobile phone in the room, so that the participant overheard the conversation. In this call, the confederate asked the person on the other end of the line to do him or her a favor and fetch a person from the train station because he or she would be late due to a delay at the university. After the phone call, the experimenter began the experiment on the computers for the confederate and the participant simultaneously. In the control condition, there was no mention of being late and there was no phone call by the confederate.

All participants worked on a series of measures in the following order. First, moral self-evaluation was implicitly measured. Then, explicit measures of positive and negative affect and general self-esteem followed. At the end of the experiment, participants were probed for suspicion and fully debriefed.

Measures

Moral Self-Evaluation. Each participant completed a moral self-evaluation IAT that was constructed to measure the strength of associations between the self and moral attributes in contrast to the self and immoral attributes.¹ The standard IAT procedure (Greenwald, McGhee, & Schwartz, 1998) was used. The IAT contained a total of 16 stimuli: five moral character attributes (German: gerecht, ehrlich, aufrichtig, rücksichtsvoll, and vertrauenswürdig; English: fair, honest, sincere, considerate, and trustworthy), five immoral character attributes (German: feindselig, hinterhältig, verlogen, skrupellos, and gemein; English: hostile, malicious, lying, ruthless, and mean), three “me” items (German: mich, mein, and mir; English: me, mine, and me), and three “not-me” items (German: ihr, euch, and euer; English: you, you, and your). The IAT score was calculated with the *D*-algorithm developed by Greenwald, Nosek, and Banaji (2003) and included all 80 trials (20 practice and 60 test). The IAT score was computed such that lower scores indicated negative moral self-evaluations.

Positive and Negative Affect. A German version of the Positive and Negative Affect Schedule (PANAS; Krohne, Egloff, Kohlmann, & Tausch, 1996) was employed with 10 items measuring positive affect and 10 items measuring negative affect. All items were answered on a 6-point rating scale ranging from 1 (*not at all*) to 6 (*absolutely*). In order to obtain a more detailed picture of negative emotional reactions, we calculated two scores for moral emotional reactions that indicated negative self-oriented emotions (2 items: guilty and ashamed) and negative other-oriented emotions (2 items: angry and hostile), respectively.

General Self-Esteem. A German version of the Rosenberg Self-Esteem scale was used to assess general trait self-esteem (von Collani & Herzberg, 2003). The scale consists of 10 items (e.g., *In general, I feel pleased with myself*). All items were answered on a 4-point rating scale ranging from 1 (*not at all*) to 4 (*absolutely*).

Results and Discussion

The data of seven participants were excluded from the analyses because these people suspected that the other participant was a confederate. For the remaining participants, means, standard deviations, internal consistencies, and correlations of the dependent variables are displayed in Table 1.

In the transgression condition, PANAS negative affect was significantly higher than in the control condition, $t(47) = 3.02$, $p = .004$, $d = 0.86$. We found significant main effects on negative self-oriented emotional reactions, $t(47) = 3.21$, $p = .002$, $d = 0.92$, and on negative other-oriented emotional reactions, $t(47) = 2.23$, $p = .031$, $d = 0.64$. Experimental conditions did not differ with regard to PANAS positive affect, $t(47) = 1.44$, $p = .16$, $d = 0.41$.

In line with Hypothesis 1, the IAT indicated stronger negative self-evaluations in the transgression condition compared to the control condition, $t(47) = 2.05$, $p = .046$, $d = 0.59$. We interpret this finding as the first empirical support for our assumption that in the face of personal transgressions, negative moral self-evaluation can be assessed using an implicit

measure (Hypothesis 1). Importantly, participants in the two conditions did not differ with regard to self-esteem, $p > .50$. Accordingly, differences in self-esteem cannot account for differences in negative self-evaluation between the transgression condition and the control condition.

Study 2

In Study 2, we wanted to replicate the findings from Study 1 using a different method for simulating a transgression situation, namely an imagination task. Moreover, in Study 2, we tested the hypotheses that negative moral self-evaluations measured implicitly after a personal norm transgression would be especially strong in shame-prone individuals (Hypothesis 2) and would mediate the motivation to restore a positive self-view over and above the motivational impact of self-reported shame and guilt reactions (Hypothesis 3). As Zhong and Liljenquist (2006) showed, physical cleansing (e.g., washing one's hands with soap) is one way of ameliorating negative self-oriented emotions. Zhong and Liljenquist also showed that a threat to one's moral purity promotes the attractiveness and the use of cleansing products. This effect can be interpreted as an emotion-oriented coping strategy aimed at purifying the moral self from being contaminated by immorality. In Study 2, we measured the attractiveness of cleansing products in order to capture an individual's motivation to restore a positive self-view.

Method

Sample and Design

One-hundred and seventy-five female undergraduates (age: $M = 22.1$, $SD = 3.9$) participated in this experiment in return for 8€. The study used a one-factor (imagination of transgression: *yes vs. no*) design.

Procedure

Participants were recruited on campus for a study on imagination and emotions and invited into the laboratory at 2 points of measurement with a time lag of 2 weeks. At the first appointment, participants worked on personality scales ($T1$), including measures of dispositional shame-proneness and guilt-proneness. The second appointment consisted of three parts. First, participants completed a baseline measure of the IAT and a questionnaire containing (among filler items) items to measure negative self-oriented emotions and negative other-oriented emotions ($T2$). Second, participants were instructed either to imagine a situation in which they caused harm due to carelessness (transgression condition) or to imagine a situation in which no harm occurred (control condition). In both conditions, the imagination task was presented by a female speaker via headphones and consisted of a relaxation phase, a story phase, and a contemplation phase. In the relaxation phase (2 min), all participants were asked to prepare themselves to become emotionally involved in the situation. In the story phase (3 min), all participants were instructed to imagine

themselves taking care of their friend's flat and dog while the friend was on vacation. They were asked to imagine taking the dog for a walk in the park and playing with a ball. In the control condition, participants were instructed to imagine playing with the dog in the park and walking home afterward. In the transgression condition, participants were instructed to imagine throwing the ball too hard so that it ends up in the street. Then they were asked to imagine the dog running after the ball, getting hit by a van, and dying. Finally, in the contemplation phase (2 min), all participants were instructed to focus on how they would feel in this situation.

Third, after the imagination task ($T3$), participants completed the IAT and the rating scales for negative self-oriented emotions and negative other-oriented emotions again. Moreover, the psychological desire for physical cleansing due to threatened moral integrity was assessed by measuring the attractiveness of cleansing products. Finally, all participants were probed for suspicion and fully debriefed.

Measures

Shame-Proneness and Guilt-Proneness. The Test of Self-Conscious Affect (TOSCA-3; Tangney, Dearing, Wagner, & Gramzow, 2000) was used in a German version (Kocherscheidt, Fiedler, Kronmüller, Backenstrass, & Mundt, 2002). Responses were made on 6-point scales ranging from 0 (*not probable at all*) to 5 (*very probable*). The internal consistency of the TOSCA-3 shame-proneness scale was acceptable (15 items, $\alpha = .72$). The internal consistency of the TOSCA-3 guilt-proneness scale was rather low (15 items, $\alpha = .60$).

Moral Self-Evaluation. Negative moral self-evaluation was assessed with the same IAT measure as in Study 1.

Negative Self-Oriented and Other-Oriented Emotions. Negative self-oriented emotions were assessed with 4 items (guilty, ashamed, angry at myself, and feeling like a bad person). Negative other-oriented emotions were assessed with 3 items (angry at others, outraged, and furious at others). Response options ranged from 1 (*do not agree at all*) to 6 (*fully agree*).

Cleansing Product Preference. Participants were asked to rate the attractiveness of two cleansing products (Dove shower soap and Balea shower soap) and two stationery products (Post-it notes and highlighters) on 6-point scales ranging from 0 (*not attractive at all*) to 5 (*very attractive*). The ratings of the cleansing products and the ratings of the stationery products were combined into separate scales. Cleansing product preference was calculated as a difference score (rating of cleansing products – rating of the stationery products).

Results and Discussion

Manipulation Checks

Descriptive statistics and correlations between the dependent variables are depicted in Table 2. We calculated separate 2

Table 2. Means, Standard Deviations, and Correlations of the Dependent Variables in Study 2.

	Time	Transgression Condition		Control Condition		(1)			(2)			(3)			(4)
		M	SD	M	SD	T2	T3	T3 – T2	T2	T3	T3 – T2	T2	T3	T2 – T3	T3
1. Negative self-oriented moral emotions	T2	0.50	0.73	0.42	0.71	.78 ^a	.19*	-.20*	.36**	.19*	-.23**	-.05	-.04	-.01	-.10
	T3	3.00	1.68	0.24	0.44		.97 ^a	.93**	.14	.30**	.15	.05	-.08	.11	-.08
	T3 – T2	2.50	1.68	-.09	0.67			—	.01	.23**	.23**	.06	-.06	.12	-.04
2. Negative other-oriented moral emotions	T2	1.10	1.35	0.95	1.23				.89 ^a	.61**	-.56**	-.07	-.10	.02	.06
	T3	1.15	1.17	0.50	0.97					.88 ^a	.31**	-.02	-.02	.01	.05
	T3 – T2	0.05	1.12	-.46	0.98						—	.07	.09	-.02	-.02
3. Moral self-evaluation IAT	T2	0.77	0.32	0.77	0.33							.85 ^a	.39**	.61**	.10
	T3	0.51	0.29	0.62	0.29								.71 ^a	-.49**	-.08
	T2 – T3	0.25	0.31	0.15	0.36									—	.16*
4. Cleansing product preference	T3	0.62	1.71	1.00	1.47										

Note. IAT = implicit association task. Ratings were made on 6-point scales (1 = not agree at all, 6 = fully agree). ^aInternal consistency as an estimator of reliability. **p* < .05. ***p* < .01.

(Imagination of Transgression: *yes* vs. *no*) × 2 (Time of Measurement: *T2* vs. *T3*) analyses of variance (ANOVAs) with repeated measures on the latter factor for negative self-oriented emotions and negative other-oriented emotions as dependent variables.

For negative self-oriented emotions, we found a significant main effect of time of measurement, $F(1, 173) = 142.09, p < .001$, partial $\eta^2 = .45$, and a significant interaction effect, $F(1, 173) = 191.67, p < .001$, partial $\eta^2 = .53$. Separate *t*-tests revealed that the interaction effect was driven by an increase (from *T2* to *T3*) of negative self-oriented emotions in the transgression condition, $t(87) = 13.93, p < .001, d = 1.93$, and a decrease in the control condition, $t(86) = -2.61, p = .011, d = -0.30$. At *T2*, negative self-oriented emotions did not differ between the experimental conditions, $t(173) = 0.69, p = .49, d = 0.11$.

For negative other-oriented emotions, we again found a significant main effect of time of measurement, $F(1, 173) = 6.52, p = .012$, partial $\eta^2 = .04$, and a significant interaction effect, $F(1, 173) = 10.06, p = .002$, partial $\eta^2 = .06$. Again, at *T2*, negative other-oriented emotions did not differ between the experimental conditions, $t(173) = 0.76, p = .45, d = 0.12$. Whereas in the transgression condition, there was no change (from *T2* to *T3*) in negative other-oriented emotions, $t(87) = 0.41, p = .68, d < 0.01$, the interaction effect was driven by a slight decrease in the control condition, $t(86) = -4.33, p < .001, d = -0.41$.

Moral Self-Evaluation

We calculated a 2 (Imagination of Transgression: *yes* vs. *no*) × 2 (Time of Measurement: *T2* vs. *T3*) ANOVA with repeated measures on the latter factor and the IAT score as the dependent variable. We found a significant main effect of time of measurement, $F(1, 173) = 61.83, p < .001$, partial $\eta^2 = .26$,

and a significant interaction effect $F(1, 173) = 4.03, p = .046$, partial $\eta^2 = .02$. Separate *t*-tests revealed that the IAT score was reduced (from *T3* to *T2*) in both the control condition, $t(86) = 3.87, p < .001, d = 0.48$, and the experimental condition, $t(87) = 7.53, p < .001, d = 0.85$. However, although the IAT score did not differ between the experimental conditions at *T2*, $t(173) = 0.05, p = .96, d < 0.1$, the IAT score was lower in the transgression condition than in the control condition at *T3*, $t(173) = 2.41, p = .017, d = 0.36$ (see Table 2). Thus, we were able to replicate the finding from Study 1 and gathered further support for Hypothesis 1 that personal transgressions trigger negative moral self-evaluations that can be assessed with an implicit measure.

Moderator Effects of Shame-Proneness and Guilt-Proneness

At *T1*, participants in the two experimental conditions did not differ with regard to shame-proneness or guilt-proneness (all *ps* > .49). In order to test whether dispositional shame-proneness and not guilt-proneness would moderate the effect of the experimental manipulation on negative moral self-evaluations as assessed with the IAT (Hypothesis 2), a moderated regression analysis was calculated. As the dependent variable, we calculated an IAT difference score (*T2* – *T3*), indicating change in moral self-evaluation. Higher values indicate a stronger increase in negative moral self-evaluation from *T2* to *T3*. In a first step, dummy-coded experimental condition (0 = *experimental condition*; +1 = *control condition*), shame-proneness and guilt-proneness were entered into the model, followed by the interaction terms Condition × shame-proneness and Condition × Guilt-Proneness in a second step. Guilt-proneness and shame-proneness were *z*-standardized before the interaction terms were calculated (Cohen, Cohen, West, & Aiken, 2003).

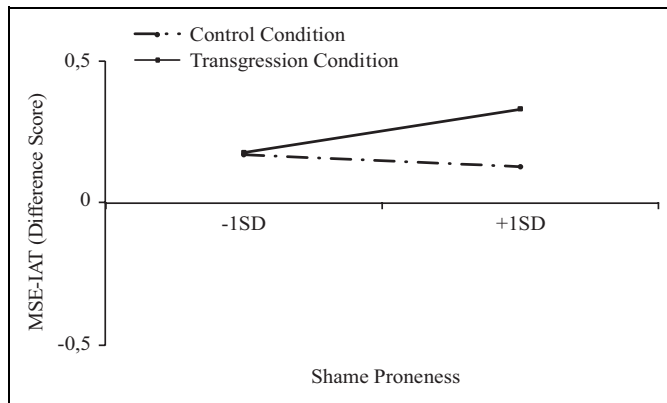


Figure 1. Interaction of experimental Condition \times Shame-Proneness on the difference in the moral self-evaluation IAT ($T2 - T3$) in Study 2. IAT = implicit association task.

The regression model explained 6% of the total variance in the change in the IAT score. There were main effects of the experimental condition, $\beta = -.15$, $t(169) = 1.98$, $p = .050$, and of shame-proneness, $\beta = .31$, $t(169) = 1.98$, $p = .021$, that were qualified by a Condition \times shame-proneness interaction, $\beta = -.27$, $t(169) = 2.15$, $p = .033$, $\Delta R^2 = .02$. The Condition \times Guilt-Proneness interaction was not significant, $\beta = -.09$, $t(169) = -0.75$, $p = .46$, $\Delta R^2 < .01$. Simple slope analyses revealed that shame-proneness predicted increased negative self-evaluation in the transgression condition, $\beta = .23$, $p = .032$, but not in the control condition, $\beta = -.07$, $p = .53$ (see Figure 1). Thus, and in line with Hypothesis 2, shame-proneness but not guilt-proneness enhanced the susceptibility to negative self-evaluations subsequent to a personal moral transgression.

Mediator Effects of Implicit Moral Self-Evaluation and Self-Reported Guilt and Shame

We tested the conditional indirect effect of shame-proneness on the attractiveness of physical cleansing as an indicator of participants' wish to restore a positive self-view after a personal transgression² ($0 = \text{experimental condition}$; $+1 = \text{control condition}$) mediated by implicitly assessed negative moral self-evaluation (Hypothesis 3). The significance of this conditional indirect effect was tested by inspecting confidence intervals (CIs) with standard errors that were estimated via bootstrapping (Preacher, Rucker, & Hayes, 2007). Note that changes in negative self-oriented emotions and negative other-oriented emotions from $T2$ to $T3$ were not correlated with changes in negative self-evaluation as assessed with the IAT (see Table 2). This result suggests the independence of self-reported reactions and more automatic reactions to personal norm transgressions. In order to test the incremental validity of this conditional indirect effect, we included not only the IAT difference score but additionally the self-reported guilt and shame difference scores ($T3 - T2$) as indicators of changes on those measures (see Figure 2).

For people high in shame-proneness (+1SD), the analysis revealed a significant indirect effect of the experimental

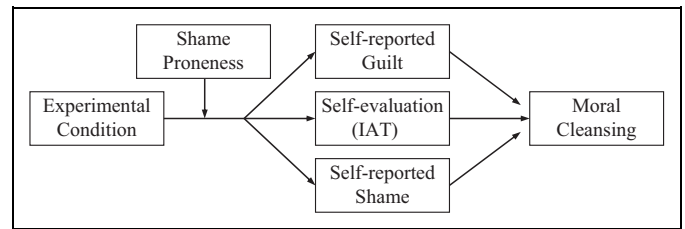


Figure 2. Mediated moderation model that was tested in Study 2.

condition on cleansing product preference mediated by change in the IAT measure, $B = .11$; $SE(B) = 0.06$; 95% CI = [.020, .291]. For people low on shame-proneness (+1SD), the indirect effect was not significant, $B = -.002$; $SE(B) = 0.04$; 95% CI = [-.079, .108]. No significant indirect effects were estimated for change in self-reported guilt (shame-proneness $-1SD$: $B = -.17$; $SE(B) = 0.28$; 95% CI = [-.736, .335]; shame-proneness $+1SD$: $B = -.17$; $SE(B) = 0.28$; 95% CI = [-.697, .347]) and change in self-reported shame (shame-proneness $-1SD$: $B = .05$; $SE(B) = 0.18$; 95% CI = [-.313, .423]; shame-proneness $+1SD$: $B = .06$; $SE(B) = 0.21$; 95% CI = [-.385, .480]).

General Discussion

To our knowledge, the present studies are the first to use an implicit measure to directly investigate self-evaluation in moral self-regulation. In two studies, we provided empirical support for the assumption that negative self-evaluation can be assessed with the proposed IAT measure and is triggered in the face of assumed or imagined personal transgressions (Hypothesis 1). This result is in line with the theoretical work of Bandura (1991, 2001), who argued that self-evaluation is key in moral self-regulation. However, although Bandura initially did not distinguish between automatic and reflective processes in moral self-regulation, our findings support recent theorizing (Haidt & Joseph, 2008) that emphasizes the importance of automatic processes for determining moral motivation.

The present research also provides empirical support for the theoretical distinction between guilt-proneness and shame-proneness with regard to cognitive and motivational reactions to personal moral transgressions. Previous research has shown that shame-proneness but not guilt-proneness is related to self-critical attributions (Lutwak et al., 2003; Pineles et al., 2006) and emotions (Giner-Sorolla et al., 2011). Consistent with these findings, our results showed that implicitly measured negative self-evaluation as a reaction to a personal moral transgression was moderated by shame-proneness and not by guilt-proneness (Hypothesis 2). This supports the idea that automatic negative moral self-evaluation is involved in shame-prone individuals' reactions to personal transgressions.

The psychological relevance of automatic moral processes is further highlighted by the finding that, subsequent to a personal transgression, the IAT measure of negative moral self-evaluation uniquely mediated the relation between shame-proneness and cleansing product preference (Hypothesis 3). This pattern of results supports the argument that in

reaction to personal transgressions, shame-proneness promotes the motivation to repair a threatened self. Our research complements prior findings (de Hooge et al., 2010) by suggesting that automatic self-evaluation is a crucial mechanism that explains the motivational outcomes of shame-proneness over and above rather reflective processes captured by self-reported shame and guilt reactions.

On a more general level, the present studies make three main contributions. First, our research introduces an implicit measure for assessing negative self-evaluation and provides empirical evidence that the IAT can be used to assess not only trait variance but also state variance in moral self-evaluation (for a similar approach in aggression research, see Uhlmann & Swanson, 2004). Second, our research contributes to a better understanding of the distinct psychological processes related to shame-proneness and guilt-proneness. Importantly, future studies should address the specificity of this effect and test whether negative evaluations of the moral self or rather of the general self are shaped by shame-proneness (and not guilt-proneness). Moreover, replicating our findings with emotion-based measures of guilt-proneness and shame-proneness (e.g., Rizvi, 2010) seems important because recent evidence has cast doubts on whether the TOSCA measures are related to affective guilt and shame experiences to the same degree (Giner-Sorolla et al., 2011). Third, we found direct evidence for the unique motivational function of implicitly assessed negative self-evaluation. Thus, our studies can be understood as a first step toward gaining empirical knowledge about automatic processes in moral self-regulation.

In sum, this research may be directly relevant for clinical interventions. Importantly, dispositional shame-proneness has been shown to be related to affective disorders such as social anxiety (e.g., Fergus, Valentiner, McGrath, & Jencius, 2010). In the light of our findings, it seems plausible that highly negative automatic moral self-evaluations play a key role in the development and perpetuation of these disorders. Thus, recent attempts to change automatic self-evaluations (Dijksterhuis, 2004; Grumm, Nestler, & von Collani, 2009) could be employed in clinical interventions in order to directly address the automaticity of negative self-evaluation in shame-prone individuals.

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Notes

1. The present implicit association task was adapted from Aquino and Reed (2002). Their word material was translated and pretested with 22 student participants who rated 35 words describing moral character attributes and 37 words describing immoral character attributes according to the strength with which these attributes were

prototypical of an immoral versus a moral character from -5 (*prototypical of an immoral character*) to 5 (*prototypical of a moral character*). We chose the five moral and five immoral character attributes that were rated most prototypical in the respective direction. Moral character attributes ($M = 4.36, SD = 0.46$) and immoral character attributes ($M = -4.21, SD = 0.64$) differed significantly in their prototypicality ratings, $t(21) = 40.75, p < .001, d = 15.37$.

2. In Study 2, there was no significant main effect of the experimental manipulation on moral cleansing, $t(173) = 1.84, p = .67, d = 0.28$. The effect was even in the opposite direction, indicating that there was a trend for the attractiveness of the cleansing product to be higher in the control condition.

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Author Biographies

Tobias Rothmund is assistant professor for Political Psychology at the University of Koblenz-Landau (Germany). In his research, he focuses on the cognitive underpinnings of moral personality, differential reactions to perceived injustice and the motivation to engage in political actions.

Anna Baumert is assistant professor for Personality Psychology and Assessment at the University of Koblenz-Landau (Germany) and external research associate at the University of Western Australia. Her research focuses on social information processing and its role in shaping individual differences in moral emotions and justice-related behavior.