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Shame for money: Shame enhances the incentive value of economic resources – RETRACTED

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Abstract

Shame leads to devaluation of the social self, and thus to a desire to improve self-esteem. Money, which is related to the notion of one's ability, may help people demonstrate competence and gain self-esteem and respect from others. Based on the perspectives of feelings-as-information and threatened ego, we tested the hypothesis that a sense of shame heightens the desire for money, prompting self-interested behaviors as reflected by monetary donations and social value orientation. The results showed that subjects in the shame condition donated less money (Experiment 1) and exhibited more self-interested choices in the modified decomposed game (Experiment 2). The desire for money as reflected in overestimated coin sizes mediated the effect of shame on self-interested behavior. Our findings suggest that shame elicits the desire to acquire money to amend the threatened social self and improve self-esteem; however, it may induce a self-interested inclination that could harm social relationships.

Keywords: emotion, feelings-as-information, money, self-interested behaviors, shame.

1 Introduction

As a particular self-conscious emotion, shame involves a global negative evaluation of self (Kemeny, Grueneward, & Dickson, 2004; Lewis, 1971; Mascolo & Fischer 1995; Tangney & Dearing, 2002). Feelings of shame are often accompanied by a sense of shrinking or being small and by a sense of exposure in front of a real or imagined audience (Tangney, Niedenthal, Covert, & Barlow, 1998). In current research, shame refers to a particular self-conscious emotion that is elicited when one's social self is threatened (Lewis, 1971; Kemeny et al. 2004; Silfver, Helkama, Lönnqvist, & Verkasalo, 2008).

In line with the view of shame as a negative emotion, studies have so far mainly focused on tendencies to withdraw or to hide (Lewis, 1971; Lindsay-Hartz, De Rivera, & Mascolo, 1995; Tangney & Fischer, 1995). For instance, Wicker, Payne, and Morgan (1983) demonstrated that people reported a higher tendency to hide after describing a shame experience than after describing a guilt experience. Tangney, Miller, Flicker, and Barlow (1996) replicated this finding in a comparison of shame, guilt, and embarrassment. However, the feelings-as-information framework proposes that people with a negative affect tend to proactively adopt strategies to amend their negative mood (Schwarz, 1990). Frijda, Kuipers, and Ter Schure (1989) found that shame was characterized by the tendency to disappear from view but also by the desire to undo the shame situation. These action tendencies are an important experiential component of emotions because they reflect the priority of mood-repair behavior that is motivated by the emotion (Frijda, 1986). The central focus of experiences of shame is a threatened or damaged self (Lewis, 1971). Thus, a central motivation of shame will be to cope with this threat. Consistent with the threatened egotism theory (Baumeister, Smart, & Boden, 1996), several psychologists have argued that people who feel shame are likely to seek positive feedback, or self-enhancement, to improve their self-esteem (Frijda, 1986; Gilligan, 2003).

Evolutionary psychology may also provide insight into money as an ego-protective function in relation to shame. Shame is a human survival mechanism (Gilbert, 1997). The evolutionary roots of shame may be grounded in the negotiation and evaluation of status in social dominance hierarchies (Barkow, 1989). Social status determined whether a person could secure the resources necessary to survive (Kemeny et al., 2004); thus, shame associated with a low social status would lead to the desire to increase money acquisition to ensure survival. Moreover, money may help people express their competence and abilities (Furnham, 1984) and gain self-esteem and respect from others (Tang, 1992). Money and self-esteem partially compensate for one another when an option contains an abundance of one type of utility and

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lacks the other (Zhang, 2009). Additionally, money produces a state of self-sufficiency (Vohs, Mead, & Goode, 2006), which may buttress self-esteem. Ferguson & Bargh (2004) showed that the desirability of an object is increased when it becomes a necessary goal (e.g., the desirability of water is increased for a thirsty person). Because money may not only serve as an entity for survival but also compensate for self-esteem (e.g., Mandara, Johnston, Murray, & Varner, 2008; Rubenstein, 1981; Tang, 2009; Zhang, 2009), it should possess a self-protective function with regard to shame. In the present paper, we tested the prediction that the desire for money would be heightened in individuals experiencing shame in order to overcome the threatened social self.

We conducted two experiments using a diverse set of behavioral measures to determine whether shame increased the desire for money and promoted self-interested tendencies in terms of economic resources. We examined the effect of shame on the inclination to donate money (Experiment 1) and to produce self-interested choices in a decomposed game that assessed social value orientation (Experiment 2). Furthermore, we tested whether the desire for money mediated the relationship between shame and the tendency to be self-interested.

2 Experiment 1

Experiment 1 tested the hypothesis that feeling shame heightens the desire for money and thereby weakens donation behavior. We included a guilt condition to rule out the alternative explanation that negative feelings alone may increase the desire for money. Tangney (1995) proposed that people's interpersonal focus was different when feeling shame than when feeling guilt. People with feelings of shame are likely to seek self-enhancement to save their self-esteem, whereas people with feelings of guilt are likely to engage in sharing, cooperation, and sacrifice (Frijda, 1986; Gilligan, 2003). Moreover, guilt may motivate prosocial behavior in related and unrelated situations (Ketelaar & Au, 2003). Thus, we predicted that subjects with induced shame would show a greater desire for money than would subjects in the neutral and guilt groups, and that this tendency would reflect the amount of money donated.

2.1 Method

The subjects were 75 undergraduate students (mean age = 21.3 years; *SD* = 2.5; 41 females and 34 males) recruited from a general education course who participated in this experiment for course credit. Upon arrival at the laboratory, subjects were instructed to help us with several unrelated tasks. Each subject was paid NT$100 (approximately US$3) in NT$10 coins for participating in the study. This ensured that subjects had money to donate.

Subjects were randomly assigned to one of three study conditions (shame, guilt, or neutral) using a block-randomized method. The emotional-event recollection technique developed by Leith and Baumesiter (1996) was used to induce shame. The recollection technique has been widely used in behavioral priming studies to prime particular concepts or affects (e.g., de Hooge, Breugelmans, & Zeelenberg, 2008; Shariff & Norenzayan, 2007; Vohs et al., 2006; Williams & Bargh, 2008; Zhong & DeVoe, 2010). This experiment was disguised as a self-reflection study. Subjects received a booklet describing self-reflection as "the ability to re-experience past events with significant meaning." To increase engagement in the task, subjects were further told: "People with better self-reflection ability have been found to be better parents, lovers, couples, and managers. Furthermore, they tend to learn lessons from experience, which enables them to avoid making the same mistakes." For the conditions of guilt or shame, subjects were instructed to recall and write down salient and impressive events that had made them feel a strong sense of guilt or shame. The instructions were semi-structured using a directed recollection procedure commonly used to investigate autobiographical memories (e.g., Bruhn, 1990; Keltner, Ellsworth, & Edwards, 1993; Yang, Yang, & Chiou, 2010; see Appendix A). In the neutral-affect condition, subjects were asked to describe a normal weekday. Instructions were in Mandarin, in both experiments.

Next, subjects were asked to help us with a coin-size-estimation task, which was introduced as a pilot test for future studies on human perception. In a classic study, Bruner and Goodman (1947) found that the value attributed to money can interfere with normal perceptual processing. Their results showed that people with a high level of desire for money overestimate the size of coins relative to people with a lower desire for money (also see Briers, Pandelaere, Dewitte, & Warlop, 2006, for a related finding). Thus, we hypothesized that the subjects in the shame condition would estimate the size of the NT coins as larger than would subjects in the neutral affect or guilt condition. Each subject was asked to identify which of seven coin sizes was the actual size of four coins (NT $1, NT $5, NT $10, and NT $50). The size of the test coins ranged from 92.5 to 107.5% of the actual size, with the fourth option being the true coin size. The average estimated coin size was rated on a scale from 1–7.[1]

After the coin size-estimation task, subjects were asked to reread their situation description and indicate how

[1] In both experiments, the rounded mean of the four coin-size estimates was used in the results reported, but the results were substantively the same with the exact mean.

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Table 1: Mean estimates and confidence intervals according to condition in Experiment 1.

	Shame condition	Neutral condition	Guilt condition
Average estimated coin size (1–7)	4.72 ± 0.50	3.52 ± 0.52	2.68 ± 0.42
Monetary donations (NT$0–$100)	26.40 ± 4.78	42.00 ± 7.42	52.40 ± 7.61

Note: Confidence intervals were set at 95%. Larger estimates of the coin size indicated greater desire for money.

much regret, guilt, embarrassment, fear, shame, anger, anxiety, or pleasure they felt in the induced-affect situation or in the normal weekday. All items were rated on 11-point scales ranging from 0 (*not at all*) to 10 (*very strongly*). This section was intended to examine the effectiveness of our affect manipulation. Following the manipulation check, the subjects completed a filler questionnaire until the experimenter told them the experiment was finished and gave them a false debriefing. This step was performed so the subjects would not connect the donation opportunity to the experiment. As the experimenter exited the room, he mentioned that the laboratory was taking donations for the University Student Fund and that there was a box by the door if the subjects wished to donate. The amount of money donated was the dependent measure.

2.2 Results and discussion

The manipulation check indicated that the experiment had successfully manipulated affect. Subjects in the shame condition felt significantly more shame (M = 8.04, SD = 0.89) than did subjects in the neutral condition (M = 1.44, SD = 0.51; $t(72) = 33.34$, $p < 0.001$) and guilt condition (M = 1.56, SD = 0.65; $t(72) = 32.73$, $p < 0.001$). Moreover, subjects with induced shame felt more shame than other emotions, with all ts(24) > 23.84 and all ps < 0.001. Subjects in the guilt condition felt significantly more guilt (M = 8.28, SD = 0.89) than subjects in the neutral condition (M = 1.64, SD = 0.57; $t(72) = 28.22$, $p < 0.001$) or shame condition (M = 1.72, SD = 0.98; $t(72) = 27.88$, $p < 0.001$). Subjects in the guilt condition felt more guilt than other emotions, with all ts(24) > 22.85 and all ps < 0.001. No significant differences were found for the other assessed emotions (i.e., regret, embarrassment, fear, anger, and pleasure), with all Fs < 2.2 and all ps > 0.05.

No gender differences were found in the coin size-estimate task (female: M = 3.49, SD = 1.52; male: M = 3.82, SD = 1.42; $t(73) = -0.98$, $p = 0.33$); thus, the data from males and females were combined for subsequent analyses (Table 1). The results of the coin size-estimate task showed that the average estimate of the shame group (M = 4.72, SD = 1.28) was significantly larger than that of the subjects in the neutral condition (M = 3.52, SD = 1.33; $t(72) = 3.46$, $p < 0.001$; Cohen's d = 0.41), suggesting that the desire for money was heightened in the shame group. Moreover, subjects in the shame condition showed a greater estimated coin size than did those in the guilt condition (M = 2.68, SD = 1.07; $t(72) = 5.87$, $p < 0.001$; Cohen's d = 0.69). The estimated coin size was smaller in the guilt condition compared to the neutral condition ($t(72) = -0.75$, $p = .018$, Cohen's $d = 0.28$). These findings indicate that negative emotions are not associated with the desire for money.

A similar pattern was found in terms of monetary donations (Table 1). The donations ranged from NT$0 to NT$100 (M = 40.27, SD = 20.07). Subjects in the shame condition donated less money to the student fund (M = 26.40, SD =12.21) than did subjects in the neutral condition (M = 42.00, SD = 18.93; $t(72) = -3.12$; $p = 0.002$; Cohen's d = 0.38) and those in the guilt condition (M = 52.40, SD =19.43; $t(72) = -5.35$; $p < 0.001$, Cohen's d = 0.63). More importantly, subjects in the guilt condition donated more money than did those in the neutral condition ($t(72) = 5.35$, $p < 0.001$, Cohen's d = 0.63). This result is consistent with previous findings indicating that guilt induces a prosocial inclination (Ketelaar & Au, 2003) suggesting that the effect of shame on self-interested tendencies is unique. No gender difference was found in the amount donated (females: M = 44.15, SD = 21.09; males: M = 35.59, SD =17.96; $t(73) = 1.87$; $p >$ 0.05).

We followed the procedures recommended by Baron and Kenny (1986) to determine whether the desire for money measured by the coin size estimations mediated the effect of shame on monetary donations. Using the amount of money donated as the dependent variable, we created a dummy variable for two study conditions (1 = the shame condition, 0 = the neutral condition). As expected, when we controlled for the estimated coin size (M = 3.64, SD = 1.48), the effect of shame on the amount donated was no longer significant (from $\beta = -0.45$, $t = -3.46$; $p = 0.001$ to $\beta = -0.20$, $t = -1.71$; $p > 0.05$). The estimated coin size was a significant predictor of the amount donated ($\beta = -0.66$, $t = -6.14$; $p < 0.001$). The inclusion of perceived invulnerability significantly

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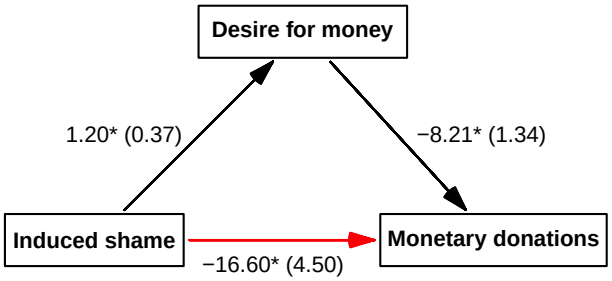
Figure 1: Mediation analysis of Experiment 1. Numbers outside parentheses are unstandarized regression coefficients; numbers inside parentheses are the standard errors of regression coefficients. The desire for money was measured by a coin size-estimation task in which larger estimates indicated greater desire for money (1–7). An asterisk indicates a p-value of less than .001.



increased the variance explained (by 27%, from $R^2 = 0.20$ to $R^2 = 0.47$; $F(1, 47) = 24.36$; $p < 0.001$); Sobel $Z = 2.87$; $p = 0.004$), indicating the desire for money mediated the effect of feeling shame on monetary donations (Figure 1).

These findings suggest that people who feel ashamed have an increased desire for money, and thus behave in a self-interested manner in terms of their donation behavior. The second experiment used an instrument that assessed social value orientation to measure self-interested behavior. Rather than relying on self-report measures, we used a decomposed game (Van Lange, Otten, De Bruin, & Joireman, 1997), which has been extensively tested in psychology experiments, to obtain an accurate indicator of self-interested tendencies rather than artifacts of impression management. Furthermore, we manipulated anxiety, another prevalent negative emotion, as a contrast condition to show that shame, but not all negative emotions, increase the desire for money. Anxiety is defined as a high degree of uncertainty over an outcome and low control over a situation (e.g., Frijda et al., 1989; Izard, 1977; Roseman, 1984). From the feelings-as-information perspective (Schwarz, 1990), anxious individuals are likely to interpret their feelings as signaling high uncertainty and lack of control. As a result, anxiety may elicit an implicit goal of uncertainty reduction and risk avoidance. For example, Raghunathan and Pham (1999) conducted a series of experiments showing that anxious individuals were risk averse (also see Raghunathan, Pham, & Corfman, 2006, Chiou, Chang, & Chen, 2009, for related findings). In Experiment 2, we hypothesized that shame would enhance the desire for money, leading to more self-interested choices, but that anxious subjects would not show this tendency because their primed goal was risk avoidance.

3 Experiment 2

We used coin size estimations as a measure of desire for money and used subjects' responses in the decomposed game to assess social value orientation as an indicator of self-interested motivation. We predicted that feeling shame would enhance the desire for money and cause subjects to make self-interested choices.

3.1 Method

We recruited 72 people from the community (aged 18–49 years, mean age = 30.5, *SD* = 7.2; 33 females and 39 males) through flyers distributed in the 11 district offices in Kaohsiung, Taiwan. Upon arrival at the laboratory, the subjects were given a short introduction and then signed consent forms. Subjects were randomly assigned to one of the three study conditions (shame, neutral, anxiety) using a randomized-block design. The affect manipulation method was similar to that used in Experiment 1.

Following the manipulation, each subject was asked to complete the coin size-estimation task and then rate their emotions, which were similar to those in Experiment 1. Later, subjects were asked to help us test an economic game that they were told was to be used in future studies. We used a nine-item decomposed game to measure social value orientation, an efficient and easy-to-administer instrument that was adopted from prior studies (e.g., Van Lange & Kuhlman, 1994; Van Lange et al., 1997). We modified the decomposed game to assess social value orientation in the monetary context by changing point value to monetary value (see Appendix B). The supposedly unrelated task involved an ostensible interpersonal interaction with a stranger in a different room. We emphasized that subjects would not see or talk to their counterparts during or after the experiment. The interaction was incorporated into an anonymous dictator game that included two roles: proposer and recipient (Hoffman, McCabe, Shachat, & Smith, 1994). The proposer makes a choice from a combination of outcomes for oneself and for the other person. The second player (the recipient) can either accept or reject this offer, but their choices did not affect proposers' outcomes. Subjects were told they had been randomly assigned to a role; however, all played the proposer.

An example of a monetary decomposed game is the choice among three options: Option A, NT $50 for self and NT $10 points for other; Option B, NT $56 for self and NT $30 for other; and Option C, NT $49 for self and NT $49 points for other. In this example, Option A represents the *competitive* choice, because it provides a larger difference between one's own and the other's monetary outcomes (50 - 10 = 40) than does either Option B (56 - 30 = 26) or Option C (49 - 49 = 0). Option B represents

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Table 2: Mean estimates and confidence intervals according to conditions in Experiments 2.

	Shame condition	Neutral condition	Anxiety condition
Average estimated coin size (1–7)	4.71 ± 0.52	3.58 ± 0.55	3.21 ± 0.57
Self-interested choices (1–9)	6.15 ± 0.53	5.25 ± 0.56	5.17 ± 0.45

Note: Confidence intervals were set at 95%. Larger estimates of the coin size indicated greater desire for money. The sum of individualistic and competitive choices in the monetary decomposed game represented self-interested choices.

the *individualistic* choice, because one's own outcomes are larger (56) than are those in Option A (50) or Option C (49). Finally, Option C represents the *prosocial* choice, because it provides a larger joint outcome (49 + 49 = 98) than does either Option A (50 + 10 = 60) or Option B (56 + 30 = 86); also, Option C represents a smaller discrepancy between one's own and other's outcomes (49 - 49 = 0) than does either Option A (50 - 10 = 40) or Option B (56 - 30 = 26).

In a typical decomposed game, subjects are classified as competitors, individualists, or prosocials when they make six or more consistent choices (Knight & Dubro, 1984; Van Lange et al., 1997). Competitors tend to maximize their own outcomes relative to others' outcomes, seeking relative advantage over others; individualists tend to maximize their own outcomes with little or no regard for others' outcomes; and prosocials tend to maximize outcomes for both themselves and others and to minimize differences between outcomes for themselves and others (Van Lange et al., 1997). However, our experiment aimed to investigate the relationship between experiencing shame and a tendency toward self-interest. Previous studies have demonstrated that individualists and competitors exhibit tendencies toward maximizing their own and relative gain (e.g., McClintock & Liebrand, 1988; Sattler & Kerr, 1991; Van Lange & Kuhlman, 1994). Thus, we used the number of individualistic and competitive choices as our dependent measure for the inclination toward self-interest.

The experiment ended after subjects made their choices. Then they answered a few demographic questions and were paid the amount of the accepted offer. Each subject was debriefed and asked if they suspected the true nature of the experiment. No subject reported being aware that the affect manipulation and our dependent measures were related.

3.2 Results and discussion

As to manipulation check, subjects in the shame condition reported significantly more shame (M = 7.97, SD = 0.91) than did subjects in the neutral condition (M = 1.92, SD = 0.78; $t(69)$ = 26.91, $p < 0.001$) and anxiety condition (M = 1.71, SD = 0.62; $t(69)$ = 27.83, $p < 0.001$). In addition, subjects with induced shame reported more shame than other emotions, with all ts(23) > 18.53 and all ps < 0.001. Subjects in the anxiety condition reported significantly more anxiety (M = 7.54, SD = 1.02) than did subjects in the neutral condition (M = 1.79, SD = 0.72; $t(69)$ = 22.03, $p < 0.001$) or shame condition (M = 1.75, SD = 0.94; $t(69)$ = 22.19, $p < 0.001$). Subjects in the anxiety condition reported more anxiety than other emotions, with all ts(23) > 17.02 and all ps < 0.001. No differences in the other assessed emotions (i.e., regret, embarrassment, fear, anger, and pleasure) between the study conditions were observed, with all Fs < 2.05 and all ps > 0.05.

No gender differences were found for the number of self-interested choices (females: M = 5.36, SD = 1.58; males: M = 5.65, SD = 1.12; $t(70)$ = –0.91, p = 0.37) or the estimated coin size (female: M = 3.73, SD = 1.35; male: M = 3.92, SD = 1.61; $t(70)$ = –0.55, p = 0.58). Furthermore, age did not affect either the self-interested choice (M = 5.52, SD = 1.35; r = –.13, p = 0.27) or the average estimated coin size (M = 3.83, SD = 1.49; r = –.06, p = 0.60); thus, the data from males and females of all ages were combined for subsequent analyses.

The shame group (M = 4.71, SD = 1.30) made larger estimates of coin size than did the neutral condition group (M = 3.58, SD = 1.38; $t(69)$ = 2.85; p = 0.006, Cohen's d = 0.34). Thus, this finding agreed with that of Experiment 1 in showing that feeling shame increased the desire for money (Table 2). Moreover, the shame group revealed a greater estimated coin size than did the anxiety group (M = 3.21, SD = 1.41; $t(69)$ = 3.80; $p < 0.001$, Cohen's d = 0.46). However, the average estimated coin size did not differ between the guilt condition and the neutral condition, ($t(69)$ = –0.95, p = 0.36). These findings lend support to the argument that negative emotions in general are not linked to the desire for money.

The differences in self-interested choices among the three affect conditions supported our prediction that self-interested behaviors would be associated with shame ($F(2, 69)$ = 4.26, p = 0.018). The shame group (M = 6.15, SD = 1.33) made more self-interested choices than

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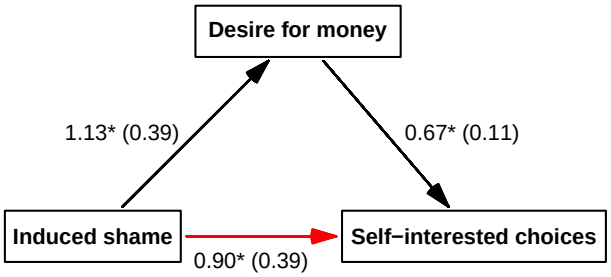
Figure 2: Mediation analysis of Experiment 2. Numbers outside parentheses are unstandarized regression coefficients; numbers inside parentheses are the standard errors of regression coefficients. The desire for money was measured by a coin size-estimation task in which larger estimates indicated greater desire for money (1–7). An asterisk indicates a p-value of less than .001.



did the neutral group (M = 5.25, SD = 1.39; $t(69) = 2.41$; p =0.019, Cohen's d = 0.29) and the anxiety group (M = 5.17, SD = 1.13; $t(69) = 2.63$; p = 0.01, Cohen's d = 0.32; Table 2). No difference in self-interested choices was found between the neutral group and the anxiety group ($t(69) = 0.22$; p = 0.82). As shown in Figure 2, a mediation analysis using the responses in the two study conditions (1 = the shame condition, 0 = the neutral condition) supported the prediction that the desire for money would mediate the effect of shame on self-interested choices. Feeling shame predicted the estimated coin size (β = 0.39, t = 2.91; p = 0.006), the estimated coin size predicted the number of self-interested choices in the monetary decomposed game (β = 0.68, t = 6.21; $p < 0.001$), and the relationship between experiencing shame and the number of self-interested choices (β = 0.32, t = 2.28; p = 0.027) was no longer significant when we controlled for the estimated coin size (β = 0.06, t = 0.52; p = 0.60), Sobel $Z = 2.62$; $p < 0.01$.

In short, the results of Experiment 2 showed that people who felt ashamed placed a greater value on money than did people who did not feel shame. The mediation analysis suggested that shame increases the desire for money, and thereby elicits a self-interested inclination in terms of economic resources.

4 General discussion

The results of Experiments 1 and 2 indicated that shame heightens the value of money. The shamed subjects donated less money to the student fund (Experiment 1) and exhibited more self-interested choices in the monetary decomposed game (Experiment 2). The results of our two experiments provide convergent evidence showing that the desire for money mediated the effect of experiencing shame on these self-interested behaviors.

An interpretation of these results using a combination of the feelings-as-information (Morris & Reilly, 1987; Schwarz, 1990) and threatened egotism (Baumeister et al., 1996) theories suggests that a motivational shift occurs in people experiencing shame, such that they seek self-enhancing items to overcome self devaluation. Self-completion theory (SCT; Gollwitzer & Kirchhof, 1998; Wicklund & Gollwitzer, 1982) may provide a framework for understanding the dynamics of this tendency. SCT posits that individuals' personal (or group) identities act as defining goals that motivate them to acquire identity-relevant symbols (Barry & Tyler, 2009; Ledgerwood, Liviatan, & Carnevale, 2007). Individuals tend to feel a sense of incompleteness when experiencing shame. According to the SCT, the resulting tension may lead to compensatory action aimed at acquiring alternative symbols of the cherished identity (Gollwitzer, Wicklund, & Hilton, 1982). Money holds intrinsic value from an evolutionary psychology point of view (Lea & Webley, 2006), and people who feel shame may consider the acquisition of economic resources a means to overcome a threatened social self or to bolster self-esteem.

Although caution should be exercised when generalizing the findings from laboratory experiments, this research provides an insightful and viable explanation for the link between negative mood and the incentive value of money. A large body of previous work indicates that shame is associated with a desire to hide or escape from others (e.g., Lindsay-Hartz et al. 1995; Tangney, 1995) and with socially insensitive narcissism (e.g., Covert, Tangney, Maddux, & Heleno, 2003; Gilbert, 1997). In addition to this passive manner, the current research provides the first reported evidence to show that people experiencing shame tend to engage in self-enhancement to amend the threatened social self by maximizing their own and relative economic resources. Moreover, money makes people feel self-sufficient, which drives them to behave accordingly (Vohs et al., 2006) and, as such, may be able to compensate for a threatened ego. Our findings are consistent with this hypothesis of the psychological value of money and suggest that money may serve a self-protective function for people who feel ashamed.

A previous study showed that endogenous shame motivated prosocial behavior for proself, but exogenous shame did not (de Hooge et al., 2008). The influence of emotion is denoted as endogenous when it concerns behaviors in situations that are related to the emotion-causing event. These influences are relevant for and part of current goal pursuit. When the influence of shame is exogenous, that is, not relevant to the current decision situation, the situation in which the self was threatened is different from the decision situation at hand. Our dependent measures were not relevant to induced shame. No effects of shame on prosocial behavior in situations unre-

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lated to the induction procedure were found (de Hooge, Zeelenberg, & Breugelmans, 2007). Thus, the shame is no longer part of the current goal pursuit and no effect of endogenous shame on prosocial behavior should be expected.

In conclusion, our findings suggest that shame heightens the desire for money as a way to enhance self worth. However, poverty carries a stigma that may cause shame (Reyles, 2007); thus, shame may strengthen the cycle of poverty and greed for money. Our findings suggest that shame makes people less likely to give away money and more likely to behave in a self-interested manner. According to evolutionary psychology theory, selfish individuals would be excluded from future cooperative ventures (e.g., Gintis, Bowles, Boyd, & Fehr, 2003) and, because exclusion from the social community is a primary source of shame (Karlsson & Sjöberg, 2009), self-interest induced by shame may trigger a cycle of self-centeredness and social exclusion. Thus, the acquisition of money to buffer the threatened social self may be adaptive in the short term, but it is maladaptive for social relationships in the long run.

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Appendix A: Instructions for the emotion manipulation

The current study is an investigation on self reflection. Self-reflection refers to the ability to re-experience past events with significant meaning. Extant research indicates that people with better self-reflection ability have been found to be better parents, lovers, and managers. Furthermore, they tend to learn from experience which enables them to avoid making the same mistakes.

Now, please recall and write down a personal experience in which you felt very ashamed (guilty or anxious):

1. What was the emotional event?
2. Why did that happen?
3. How did you feel then?
4. What was the consequence of that event?

Please describe the event as vividly as possible.

Appendix B: The modified decomposed game

In this task, your role is the "Proposer," and you have been randomly paired with another person, whom we will refer to simply as the "Recipient." This other person is someone you do not know and that you will not knowingly meet in the future. Since your role is the "Proposer," your job is to make choices by circling either the letter A, B, or C. Your choices will be passed to the "Recipient" who can either accept or reject them, but their choices will not affect your outcomes.

Here's an example of how this task works:

	A	B	C
You get	50	50	55
Recipient gets	10	50	30

In this example, if you chose A you would receive NT $50 and the other would receive NT $10; if you chose B, you would receive NT $50 and the other NT $50; and if you chose C, you would receive NT $55 and the other NT $30. So, you see that your choice influences both the money you receive and the money the "Recipient" receives. Before you begin making choices, please keep in mind that there are no right or wrong answers—choose the option that you, for whatever reason, prefer most.

For each of the nine choice situations, circle A, B, or C, depending on which column you prefer most:

(1)	A	B	C
You get	48	54	48
Recipient gets	8	28	48

(2)	A	B	C
You get	56	50	50
Recipient gets	30	50	10

(3)	A	B	C
You get	52	52	58
Recipient gets	52	12	32

(4)	A	B	C
You get	50	56	49
Recipient gets	10	30	49

(5)	A	B	C
You get	56	50	49
Recipient gets	30	50	9

(6)	A	B	C
You get	50	50	57
Recipient gets	50	10	30

(7)	A	B	C
You get	51	56	51
Recipient gets	51	30	11

(8)	A	B	C
You get	55	50	50
Recipient gets	30	10	50

(9)	A	B	C
You get	48	49	54
Recipient gets	10	49	30

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