

Cross-Domain Effects of Guilt on Desire for Self-Improvement Products

THOMAS ALLARD

KATHERINE WHITE

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Thomas Allard (thomas.allard@sauder.ubc.ca) is a PhD student, and Katherine White (katherine.white@sauder.ubc.ca) is Professor in marketing and behavioural science and Professorship in Consumer Insights, Prosocial Consumption, and Sustainability, Sauder School of Business, University of British Columbia, Vancouver, Canada. This article is based on the first author's doctoral dissertation. The authors gratefully acknowledge the financial support from a Social Sciences and Humanities Research Council of Canada (SSHRC) doctoral scholarship awarded to Allard and a SSHRC grant awarded to White. We also thank Kirstin Appelt, Johannes Bögershausen, Darren Dahl, Lea Dunn, Dale Griffin, Joey Hoegg, and the review team for helpful comments on this manuscript.

ABSTRACT

This research examines the notion that guilt, the negative emotion stemming from a failure to meet a self-held standard of behavior, leads to preferences for products enabling self-improvement, even in domains unrelated to the original source of the guilt. Examining consumer responses to real products, this research shows that such effects arise because guilt—by its focus on previous wrongdoings—activates a general desire to improve the self. This increase in desire for self-improvement products is only observed for choices involving the self (not others), is not observed in response to other negative emotions (e.g., shame, embarrassment, sadness, or envy), and is mitigated when people hold the belief that the self is non-malleable. Building on past work that focuses on how guilt often leads to the motivation to either directly or indirectly alleviate feelings of guilt, the current research demonstrates an additional, novel downstream consequence of guilt, showing that only guilt has the unique motivational consequence of activating a general desire to improve the self, which subsequently spills into other domains and spurs self-improving product choices. These findings are discussed in light of their implications for research on the distinct motivational consequences of specific emotions and on consumer well-being.

Keywords: guilt, negative emotions, self-improvement, self-standards, consumption

On her way to the mall, Olivia walks past a blood donation clinic and sees a large poster calling for donors. She knows how desperately blood donors are needed and has always wanted to give blood, but somehow she has never taken the time to do so. She spends the rest of her journey feeling guilty for not having made a blood donation. How might Olivia's experience of guilt influence her subsequent behaviors?

Extant theories of emotion predict that Olivia could resolve her negative feelings *directly* and address the source of the guilt by making a donation of blood (Baumeister, Stillwell, and Heatherton 1994). However, this may not always be possible. Under such conditions, existing work predicts that Olivia could alternatively seek to alleviate her feelings of guilt *indirectly* in one of two specific ways. First, feelings of guilt might lead Olivia to carry out behaviors that would put her in a more positive mood. For example, she could engage in mood repair by donating money to charity or by watching a humorous sitcom (Ketelaar and Tung Au 2003). Alternatively, guilt may prompt Olivia to avoid further negative feelings by denying herself indulgences (e.g., avoiding ordering dessert or postponing an extravagant purchase; Zemack-Rugar, Bettman, and Fitzsimons 2007).

The current research highlights a novel downstream behavioral consequence of guilt—cross-domain preferences for choice options enabling self-improvement. We propose that when opportunities to engage in actions directly aimed at addressing the source of the guilt are not available, guilt activates a general motive to improve the self. We show that guilt can lead to preferences for options geared toward improving important facets of the self, even in domains unrelated to the one where the guilt originated. In our example, self-improvement motives may drive Olivia to try to improve herself by making an appointment with a financial planner or renewing her gym membership.

By providing evidence for the unique effect of guilt on the desire for self-improvement options, we contribute to the literature emphasizing the distinct motivational consequences of specific emotions (Cavanaugh, Bettman, and Luce 2015; Griskevicius, Shiota, and Nowlis 2010; Wilcox, Kramer, and Sen 2011; Winterich and Haws 2011) and address previous calls to expand our understanding of the impact of guilt on consumption (Goldsmith, Cho, and Dhar 2012; O’Keefe 2002). We outline below the specific contributions we make to the literature.

First, we bring to light how guilt activates a desire for consumption options enabling self-improvement in domains unrelated to the original source of the guilt. Importantly, we show that the tendency to prefer self-improvement options over comparison options is a distinct consequence of guilt that does not emerge in response to other negative emotional states (e.g., shame, embarrassment, sadness, or envy).

Second, we highlight the motivational underpinnings of the observed effect by demonstrating that guilt has the novel consequence of activating a general desire to improve the self, which leads to a preference for the consumption of products with self-improvement features in domains unrelated to the original source of guilt. We further highlight the unique motivational properties of guilt by showing that they emerge only when the product is meant to be consumed by the self as opposed to others.

Third, this research contributes to the literature on the behavioral effects of guilt on subsequent consumption. For the most part, work in this area has focused on measuring preference for vice-over-virtue, hedonic-over-utilitarian, or luxury-over-necessity options (see Khan and Dhar 2006 for a discussion). Instead, we show that when selecting among equally positive options not requiring aversive effort, the unique nature of guilt—stemming from a

failure to meet salient self-standards and triggering a generalized desire for reparative actions—leads individuals experiencing guilt to actively seek consumption options enabling self-improvement.

Finally, we also demonstrate the importance of a theoretically relevant moderator of the observed effects. Our conceptual framework proposes that guilt activates a general desire to improve the self, which subsequently drives preferences for self-improvement options. As such, we propose and find that personal beliefs about the ability to change and improve the self moderate the observed effects (e.g., Chiu, Hong, and Dweck 1997). In particular, we find that individuals holding a belief that the self is malleable demonstrate a tendency to seek self-improvement options after experiencing guilt, but those holding a belief that one's personal attributes are fixed do not. We next turn our theoretical framework.

THEORETICAL DEVELOPMENT

Guilt is part of a class of emotions referred to as “self-conscious emotions” which share the characteristic of involving a self-evaluation of one's current state of affairs (Smith and Ellsworth 1985; Tangney 1999; Tracy and Robins 2004). Guilt develops from the awareness of not having lived up to some important self-standard of behavior regarding what is deemed to be good, correct, appropriate, or desirable (Eisenberg 2000; Lewis 1971; Smith and Lazarus 1990; Tangney, Stuewig, and Mashek 2007). Guilt is associated with a negative evaluation of the self (Baumeister et al. 1994) and the propensity to trigger reparative actions aiming to resolve the negative self-evaluation in some way (Frijda, Kuipers, and ter Schure 1989; Hoffman 1982; Tangney et al. 1996). Importantly, guilt is associated with high perceived self-efficacy in dealing with the specific negative feelings (Lazarus and Folkman 1984). Guilt acts as a feedback

function by prompting people to reflect on their wrongdoing and to consider how to avoid similar aversive outcomes in the future (Baumeister et al. 2007).

Guilt and Reparative Actions

Previous work on the downstream consequences of guilt has demonstrated that guilt often results in reparative actions that either directly or indirectly resolve the feelings of guilt. First, the experience of guilt often leads individuals to engage in actions allowing for reparation of the wrongdoing in a way that can directly resolve feelings of guilt (e.g., Ainslie 1975; Hoch and Loewenstein 1991; Tangney and Dearing 2002). Indeed, guilt has been shown to trigger the goal of atonement for the particular guilt-inducing transgression (Lindsay-Hartz, De Rivera, and Mascolo 1995; Miceli and Castelfranchi 1998). Guilt leads people to wish that they had not committed their lapse or misdeed and to expend great effort to make amends in the specific domain of the wrongdoing (Baumeister, Stillwell, and Heatherton 1995; Frijda et al. 1989; Hoffman 1982; Miceli and Castelfranchi 1998). For example, customers who expressed guilt for not making a purchase in a clothing store despite a friendly interaction with a salesperson were subsequently more likely to credit that particular salesperson for future purchases in that store (Dahl, Honea, and Manchanda 2005). This mechanism, which relies on reparative actions directly aimed at addressing the source of guilt, is often used in the context of guilt appeals (Coulter and Pinto 1995; Huhmann and Brotherton 1997). Guilt appeals attempt to make individuals feel guilty in a focal domain in anticipation that individuals will then directly address the feelings of guilt in that same domain (Agrawal and Duhachek 2010; Basil, Ridgway, and Basil 2008).

Second, guilt can lead to actions that are indirectly aimed at repairing negative mood—with conflicting perspectives on whether guilt ultimately increases (vs. decreases) self-control. That is, the activation of guilt in one context can lead to behaviors that have the potential to reduce the negative mood in a second, unrelated context (e.g., Elliott 1994; Kivetz and Zheng 2006; Sim and Zeman 2005; Snoek et al. 2007; Yi 2012). For example, guilt has been found to trigger mood-repairing consumption behaviors such as binge eating (Bybee et al. 1996) and shopping (O'Guinn and Faber 1989). Guilt has also been linked to a variety of prosocial behaviors unrelated to the source of the guilt (Cialdini et al. 1987; Strahilevitz and Myers 1998), including providing help to strangers, volunteering (Konecni 1972; Quiles and Bybee 1997; Regan, Williams, and Sparling 1972), and cooperating in social bargaining games (De Hooge, Zeelenberg, and Breugelmans 2007; Ketelaar and Tung Au 2003; Nelissen, Dijk, and de Vries 2007). Such behaviors may enable mood-management in ways that indirectly counteract the negative psychological experience of guilt. Similarly, self-conscious affect in general—and more specifically guilt—may also lead people to act in ways that aim to prevent further worsening of their mood. That is, a large body of literature has shown guilt's ability to trigger avoidance of consumption options perceived as wasteful, immoral, and irresponsible (e.g., Dhar and Wertenbroch 2000; Khan and Dhar 2006; Kivetz and Keinan 2006; Kivetz and Simonson 2002; Levav and McGraw 2009), because selecting indulgent options (ex. chips and CDs) can further trigger feelings of guilt (e.g., Giner-Sorolla 2001; Hofmann and Fisher 2012; Ramanathan and Williams 2007; Zemack-Rugar et al. 2007).

Guilt and Self-Improvement

The current research introduces a third downstream consequence of guilt—its ability to induce a generalized desire for self-improvement. Past research suggests that the appraisal of

guilt is associated with a salient awareness of a failure to meet a standard that is important to the self (Higgins 1987; Miceli and Castelfranchi 1998; Pelozo, White, and Shang 2013; Tracy and Robins 2004). We propose that when such a failure becomes salient and triggers feelings of guilt, this can activate a general desire to lift the self up to meet other important self-standards. In other words, guilt is associated with a general motivation to improve the self in self-relevant domains. We suggest that this motivation can in turn lead to preference for consumption choice options with self-improvement features compared to equally attractive comparison options that do not offer self-improvement features. Although such an effect related to guilt has never been demonstrated, this prediction is consistent with an emotional appraisal account of guilt suggesting that the appraisal of a specific emotion can activate a general cognitive predisposition guiding the interpretation of future events in line with the evaluative process that triggered the emotion (Lerner and Keltner 2000). We build on this reasoning to make the novel prediction that because guilt stems from the assessment of falling short of a relevant self-standard, it will activate a *general desire to improve the self*, leading to a preference for consumption options geared toward self-improvement, even in domains unrelated to the original source of the guilt.

We define self-improvement as the motivation to pursue outcomes that will facilitate bettering some self-relevant aspect of the self, including personal attributes or performance in domains important to the self, such as the intellectual, moral, social, or physical self (Sedikides 2009; Sedikides and Strube 1995, 1997). In consumption contexts, choice options enabling someone to become better at a task or to improve some facet of the self can fall in the self-improvement category. Examples of such consumption options include, for instance, reading a difficult book, learning a new language, or starting an exercise program. In sum, while past research has often examined either direct or indirect routes to resolving the negative emotion of

guilt, we propose that one additional response to guilt is to seek out options enabling self-improvement.

The Unique Nature of Guilt

The present research focuses on identifying a unique outcome of guilt that is not produced by other negative emotions (see Zeelenberg et al. 2008). Numerous accounts suggest that guilt is often confused in lay language with other negative self-conscious emotions such as shame and embarrassment (Baumeister et al. 1994; Lewis 2010; Tangney et al. 1996). With regards to guilt and shame, substantial evidence suggests that while these emotions share similar self-evaluative and remorse components, they activate different types of coping responses (Agrawal and Duhachek 2010; Lewis 1971; Sheikh and Janoff-Bulman 2010; Tangney et al. 1996). Specifically, most research suggests that people experiencing guilt evaluate the self in relation to the specific reprehensible behavior (i.e., I *did* something wrong), whereas those experiencing shame undergo a more global negative attribution and perceive the self as the central object of negative evaluation (i.e., I *am* a bad person; Lewis 1971; Lewis 2010; Lickel, Schmader, and Barquissau 2004; Tangney and Dearing 2002). Shame is also associated with withdrawal, motivating escape or concealment (Tangney et al. 1996; Tracy, Robins, and Tangney 2007). Guilt is, therefore, typically more associated with problem-focused coping strategies whereas shame facilitates emotion-focussed coping strategies (Duhachek, Agrawal, and Han 2012; Lazarus and Folkman 1984). In other words, people experiencing guilt tend to take action-oriented strategies aimed at pursuing positive changes (Ketelaar and Tung Au 2003) whereas people experiencing shame, due to a lack in their perceived efficacy to change their environment, tend to engage in withdrawal responses, adopting strategies aimed at regulating their negative emotion (De Hooij et al. 2007; Tangney et al. 2007).

In comparison to guilt and shame, embarrassment is defined as a failure to present the self to others in the way one would have wished (Edelmann 1987). Embarrassment, like guilt and shame, focuses on negative self-evaluation, but does so in a more benign manner.

Embarrassment carries the connotation of being caused by an act that is merely socially improper or awkward rather than morally wrong (Tangney, Mashek, and Stuewig 2005), such as losing control over one's body (e.g., burping), public displays of cognitive shortcomings, or deviations in one's appearance (Keltner and Buswell 1996). Because of its focus on innocuous violations during social interactions, embarrassment typically leads to responses aimed at repairing the image of the self that is displayed to others (Dahl, Manchanda, and Argo 2001; Keltner and Buswell 1997). Drawing on this work, it appears that only guilt, not shame or embarrassment, is associated with falling short of a desired self-standard in way that is likely to activate a generalized desire to focus on improving the self.

This current research also compares the effect of guilt with that of sadness because sadness is an emotion that is similar to guilt in terms of valence, intensity, and level of certainty about the source of the emotion (Smith and Ellsworth 1985) that is motivating some sort of reparative actions aimed at addressing the experiencer's negative state (Lerner, Small, and Loewenstein 2004; Salerno, Laran, and Janiszewski 2014). However, sadness and guilt differ greatly in their perception of self-control over the misdeed. Specifically, sadness is often associated with a perception that one's misfortunes are due to circumstances beyond one's control (Keltner, Ellsworth, and Edwards 1993), whereas guilt is associated with a sense of control and responsibility over one's misfortune (Lewis 1971). Accordingly, sadness is typically associated with the selection of rewarding options that will compensate for the heightened negative mood (e.g., spending time with friends over studying; Garg, Wansink, and Inman 2007;

Raghunathan, Pham, and Corfman 2006). Hence, we expect guilt to yield more reparative actions consistent with self-improvement than sadness.

Finally, we also compare the effect of guilt versus the effect of envy on desire for self-improvement options. Envy and guilt share some similarities in that both are associated with the realizations that one has fallen short of a standard and may both trigger compensatory actions (e.g., Silver and Sabini 1978). Importantly, however, envy and guilt appear to have different antecedents and outcomes (Polman and Ruttan 2012). Envy focuses on social comparison and status (Smith and Kim 2007) whereas guilt focuses on the self and moral violations (Tangney and Dearing 2002). Envy often motivates direct competition with or even harm to the envied individual (Miceli and Castelfranchi 2007; Smith and Kim 2007), but can also trigger a desire to better one's position through ownership of status products (van de Ven, Zeelenberg, and Pieters 2009, 2011). In a consumption context, we should observe a difference in how these two distinct emotions impact consumer choices. Guilt, by its focus on failing to meet self-standards should increase the desire for consumption options aimed at enabling one's potential for self-change. On the other hand, envy, by its focus on social comparison, should not lead to a generalized desire for self-improvement. Instead, envy should lead to the motivation to improve one's own status vis-à-vis others (Van de Ven et al. 2011; Youn and Goldsmith working paper). Overall, we expect that guilt, compared to shame, embarrassment, sadness and envy, will be more likely to lead to seeking out products with self-improvement qualities (i.e., that allow for self-change).

Formally, we hypothesize that:

H1a: Guilt (versus comparison emotions) leads individuals to exhibit increased preferences for self-improvement consumption options.

In addition, we suggest that this is driven by the activation of self-improvement motives:

H1b: The effect of guilt on desire for self-improvement consumption options is mediated by a general desire to improve the self.

We emphasize that the observed effects are driven by a self-motivated process (e.g., Sedikides 1999), rather than by some cognitive association between guilt and a desire for any “good” option available (e.g., Merritt, Effron, and Monin 2010). Given that our framework highlights that guilt arises from the salient fact that one has fallen short of self-standards, guilt should activate a desire for products that are specifically designed to improve the self. In contrast, this desire should not occur when the consumption choice options is not expected to improve the self (i.e., when the improvement option is for another individual). We examine this by comparing preferences for improvement products when purchasing for the self or for others. Our theoretical framework predicts that we should observe guilt leading to a preference for improvement products only when the purchase is being made for the self, but no others. Formally, we hypothesize:

H2: Guilt leads to preference for choice options with improvement features when purchasing for the self, but not for others.

Our framework further implies that the extent to which guilt will lead individuals to prefer products with self-improvement features will depend on their perception of their own ability to change and improve (Jones et al. 1968). That is, self-improvement motivation is likely to be influenced by the individual’s own implicit self-theory or lay beliefs about the malleability of the self. These beliefs have been documented and categorized in past research according to two types of orientation: entity or incremental self-theories (Dweck 2000; Molden and Dweck

2006). On the one hand, individuals who hold an entity self-theory see personal qualities as fixed and unchangeable, believing that no amount of personal effort can change the self. On the other hand, those holding an incremental self-theory believe that the self can be modified and improved if effort is invested. Further, people who hold an incremental self-theory are more likely to seize opportunities for self-improvement (Dweck and Leggett 1988; Heine et al. 2001). As such, we predict that whereas those who hold an incremental view of the self will demonstrate the tendency to pursue self-improvement options after experiences guilt, this effect will be mitigated among those who hold an entity view of the self. In particular:

H3: In response to guilt, participants holding an incremental self-theory will exhibit stronger preferences for self-improvement options than those holding an entity theory of the self.

OVERVIEW OF THE RESEARCH

This research sets out to examine the notion that guilt, the negative emotion stemming from a failure to meet a self-held standard of behavior, leads to preferences for products enabling self-improvement, even in domains unrelated to the original source of the guilt. We test this prediction in a series of six studies. In the pilot study, we conduct a field experiment that provides preliminary evidence that guilt (vs. no guilt) leads to a desire for products facilitating self-improvement. Study 1 replicates this effect in a lab setting and offers mediational evidence that the observed effects arise from a general desire to improve the self. Study 2 finds that although the selection of self-improvement options does not appear to alleviate feelings of guilt, it does reduce the desire to improve the self. Study 3 tests the notion that guilt leads to an increased desire for self-improvement consumption options over comparison options when

compared to other negative emotional states or a neutral condition. Study 4 provides evidence that this effect arises only for products that are relevant to the self and not others. Finally, in study 5, we measure participants' belief in their ability to change (Dweck 2000) to test a boundary condition for observed effects.

PILOT STUDY

As an initial test of the hypothesis that guilt leads to preferences for products with self-improvement features, we conducted a field experiment. Our key prediction was that individuals will be more inclined to choose a product positioned as offering self-improvement benefits versus a comparison product under conditions where guilt is activated (as opposed to not activated).

Method

Participants and Design. Ninety-seven individuals recruited on the University of British Columbia campus (36% female, $M_{\text{age}} = 20.4$) took part in a one-factor (guilt vs. no guilt) design. The dependent variable was choice of product positioned on the basis of self-improvement qualities (self-improvement product) versus other qualities (comparison product).

Procedure. Passers-by were intercepted at a busy intersection during orientation week and invited by the researcher to participate in a short survey in exchange for a free drink. In the guilt condition, the questionnaire's first section directed participants' attention toward an easel displaying a full-sized poster and instructed them to write down a brief description of how the advertisement made them feel. The poster depicted a message from a local blood services organization which included a guilt appeal. The tagline read: "There is no substitute for blood. Your hesitation could cost someone their life." (Note that this wording has been used in an actual

campaign by the Singapore Red Cross Society; see Online Appendix A for the materials). A separate test conducted with a sample taken from the same student population confirmed that this message does indeed activate feelings of guilt (“To what extent does this poster makes you feel guilty?” 1: not at all; 7: very much; $M = 4.86$, $SD = 1.63$; significantly above the scale midpoint, $t(34) = 3.11$, $p < .01$). Participants then reported their demographic information. In the no-guilt condition, the poster was not present and the questionnaire only asked about demographic information.

Every participant then read that, as a token of gratitude, they could take a sample of VitaminWater. Participants read a description of the benefits of two drink options presented along with black-and-white pictures of the products (see Online Appendix B). The “Focus” flavor was positioned as a product that allowed for self-improvement. Its description read: “Improving your mental performance is key. Focus gives you the clarity and alertness to improve your mental performance.” The “Essential” flavor acted as a comparison product with a description that stated: “Getting the right hydration is essential for your body. Essential gives you the hydration that you need.” We chose mental performance as the improvement domain, because it is very self-relevant for this student sample. The key dependent measure was whether participants chose the flavor that was positioned in terms of its self-improvement benefits (called “Focus”) or the comparison product (called “Essential”). These products—and the ones used in all subsequent studies—were pre-tested to ensure that the self-improvement option was viewed as being higher in self-improvement qualities relative to the comparison option, yet perceived as being equally desirable. Pre-tests were also conducted to rule out the potential alternative explanation that guilt leads to preference for products associated with self-control, measuring the extent to which these products were perceived as being vice or virtuous options (Khan and Dhar

2007), hedonic or utilitarian options (Khan and Dhar 2006), or related to a need to exert self-control (e.g., Giner-Sorolla 2001; see Online Appendix H for a summary of all pre-tests).

Completion rate amongst the passers-by who stopped by the researcher's booth was 100%.

Results

Two participants in the guilt condition declined taking either of the drinks and were not included in the analyses. Results revealed that more participants chose the self-improvement drink following exposure to the guilt-inducing advertisement (34/53 = 64.2%) compared to those in the no-guilt condition (17/42 = 40.5%; $\chi^2(1) = 5.28, p < .05$).

Discussion

In a field setting, the results of our pilot study provide preliminary support for the prediction that guilt leads to preferences for self-improvement products in domains unrelated to the original source of the guilt. While the field study methodology allowed us to examine consumers' actual choices in a naturalistic setting, we utilize more controlled lab experiments in our subsequent studies.

STUDY 1

Study 1 demonstrates our key effect in a more controlled laboratory context and examines the motivational process underlying how guilt influences desire for cross-domain self-improvement products. Our framework proposes that guilt activates the general motivation to improve the self, which then leads to preferences for self-improvement products. Thus, we examine whether self-improvement motives mediate the relationship between guilt and the choice of a self-improvement product. In addition, we test our hypothesis that desire for self-

improvement products can transfer to different domains from the one where the guilt originated by linking an emotional manipulation pertaining to the social domain to the choice of a product enabling self-improvement in the health domain (i.e., fitness).

Method

Participants and Design. One hundred sixty-nine participants recruited through Amazon Mechanical Turk took part in this experiment (50% female, $M_{\text{age}} = 34.1$). This study utilized a 2 (emotion: guilt vs. control) between-participants design. The dependent variable of interest was willingness to use a self-improvement product.

Procedure. Participants were randomly assigned to one of two emotional-recall conditions. In the guilt condition, participants were asked to write in detail about a recent time in which they let someone down and felt guilty about it (adapted from Tangney et al. 1996). In the neutral condition, participants wrote about a time they had a neutral (neither positive nor negative) encounter. Participants then rated their general motivation to self-improve using four 7-point items (-3: strongly disagree; +3: strongly agree): “I want to achieve success,” “I want to do better,” “I strive to be better,” “I want to prosper” (self-improvement motivation index: $\alpha = .82$).

Participants then were asked to evaluate a fitness-tracking mobile phone application or “app” that was positioned as a self-improvement product offering a number of improvement-related features including a pedometer, calorie counter, and sleep cycle visualization option (see Online Appendix C for details). Participants rated their likelihood of utilizing this free app using two 7-point bipolar items: “very unlikely–very likely,” “very improbable–very probable” ($r = .98$). Participant also completed some demographic measures and an item that measured

participants' weekly average number of hours of physical activity. We used this as a covariate in the analysis because this serves as a proxy for how relevant participants perceive fitness to be (0.00 to 20.00 slider; $M = 4.42$, $SD = 3.16$, skewness = .75; log transformed ($x+.01$) to account for non-normality).

Results

Self-Improvement Strivings. Results from an ANOVA revealed that participants in the guilt condition ($M = 2.30$, $SD = 0.68$) expressed a stronger generalized desire to improve themselves compared to participants in the neutral condition ($M = 2.07$, $SD = 0.72$; $t(167) = 2.23$, $p < .05$).

Usage Likelihood. Controlling for weekly hours of physical activity, results from an ANCOVA, revealed that participants in the guilt condition were more likely to use the app ($M = 5.68$, $SD = 1.53$) compared to those in the control condition ($M = 5.19$, $SD = 2.01$; $F(1, 166) = 4.01$, $p < .05$; without the covariate $p = .07$).

Indirect Effect. Results showed a significant indirect effect of guilt leading to greater usage likelihood of the app through self-improvement strivings (indirect effect = 0.10, $SE = 0.07$, $CI_{95} [0.01, 0.30]$) when controlling for physical activity on the dependent variable. In other words, guilt activated a desire for self-improvement (coded: 0 = control, 1 = guilt; $a = .23$, $SE = .11$, $CI_{95} [0.02, 0.44]$). In turn, those with a high desire for self-improvement were more willing to use the self-improvement product ($b = .43$, $SE = .27$, $CI_{95} [0.05, 0.80]$).

Discussion

Study 1 provides support for the notion that guilt leads to cross-domain preferences for self-improvement products and sheds light on the motivational nature of this effect by showing

that it is mediated by a general desire for self-improvement. The next study provides additional evidence to support mediation by self-improvement strivings and tests whether the selection of self-improvement options addresses participants' feelings of guilt.

STUDY 2

Study 2 was designed to replicate the basic finding that guilt leads to a preference for self-improvement options. In addition, we examined the consequences of choosing self-improvement options. Our conceptual framework proposes that while the selection of an out-of-domain self-improvement product should not alleviate the intensity of the guilt feelings (which are directly tied to an unrelated event), it should reduce the guilt-heightened generalized desire for self-improvement. Specifically, when comparing pre- and post-choice measures of guilt, observing among participants in the guilt condition a steeper decline in the intensity of the guilt feelings for those who selected a self-improvement product versus those who did not would indicate that the selection of a self-improvement product is serving to alleviate feelings of guilt. If instead, the selection of self-improvement options is serving a self-improvement function, we should observe a steeper decline in the intensity of the desire for self-improvement for those who selected a self-improvement product versus those who did not. To further validate our conceptualization, we test both pre-choice measures of guilt and self-improvement strivings as mediators for the effect of guilt on the selection of the self-improvement product.

Method

Participants and Design. One hundred sixty-six undergraduate students took part in this lab experiment (60% female, $M_{\text{age}} = 20.4$). This study used a mixed design with a 2-level between-participants factor (emotion: guilt vs. neutral) and a 2-level within-participants factor

(pre-choice vs. post-choice measure of guilt and of self-improvement strivings). The dependent variable of interest was whether participants exchanged a portion of their payment to obtain a self-improvement product.

Procedure. First, participants were seated at individual computers and randomly assigned to one of two emotional-recall conditions using the same procedure as in study 1. After this emotional manipulation, participants reported the extent to which the event they described made them feel guilty, using three 7-point scale items (guilty, repentant, blameworthy; Tangney et al. 1996; 1: not at all, 7: very much; $\alpha = .96$), and then rated their general motivation to self-improve using the same items as in study 1 ($\alpha = .84$). Participants were then shown a pack of sticky notes that was positioned as a self-improvement product: “Sticky notes for effective knowledge retention—the secret weapon of students wishing to improve” (see Online Appendix D). Participants were offered the option to forgo a portion of their study payment (\$1) in exchange for receiving the product. After making their choice, participants reported their level of guilt ($\alpha = .96$) and motivation to self-improve ($\alpha = .88$) for the second time. Upon leaving the lab, they received their choice of the self-improvement product and/or money.

Results

Pre-Choice Guilt. Participants in the guilt condition ($M = 5.16$, $SD = 1.28$) expressed more intense feelings of guilt compared to participants in the neutral condition ($M = 2.48$, $SD = 1.55$; $t(164) = 12.15$, $p < .001$).

Pre-Choice Self-Improvement Motivation. Participants in the guilt condition ($M = 2.49$, $SD = 0.71$) expressed more intense desire for self-improvement compared to participants in the neutral condition ($M = 2.24$, $SD = 0.76$; $t(164) = 2.11$, $p < .05$)

Product Choice. Participants were more likely to select the self-improvement product in the guilt condition (64.7%) compared to participants in the control condition (49.4%; $\chi^2(1) = 3.98, p < .05$).

Pre/Post-Choice Guilt. A repeated-measures ANOVA revealed no significant three-way interaction for effect of the pre/post measure by the emotion conditions and the choice of the self-improvement product ($F < 1$; see table 1 for details) and no significant two-way interaction for the pre/post measure by the choice self-improvement product ($F(1,162) = 1.03, p > .30$). Instead, results did reveal a significant two-way interaction for the pre/post measures of guilt by the emotion conditions ($F(1,162) = 14.47, p < .001$) which reflects the fact that across product choice conditions (i.e., averaged scores), the difference between the two measures of guilt (post-score *minus* pre-score) was significantly greater in the guilt ($M_{Diff} = -0.99; M_{Guilt-Pre} = 5.16, M_{Guilt-Post} = 4.16$) compared to neutral condition ($M_{Diff} = -0.21; M_{Neutral-Pre} = 2.48, M_{Neutral-Post} = 2.27$). These results suggest that choosing the self-improvement product (vs. not) had no significant influence on the intensity of the guilt, beyond a decay of the guilt manipulation over time.

Insert table 1 about here

Pre/Post-Choice Self-Improvement Motivation. A repeated-measures ANOVA revealed a marginally significant three-way interaction for effect of the pre/post measure by the emotion conditions and the choice of the self-improvement product ($F(1,162) = 3.57, p = .06$) and no other significant interaction or main effects. This reflects the fact that, using a post-hoc LSD test, there is a significant decrease between the two measures of self-improvement for participants in

the guilt condition who choose the self-improvement product ($M_{Pre} = 2.60$, $SD = .60$, $M_{Post} = 2.52$, $SD = .66$; $F(1,162) = 3.98$, $p < .05$), but not for participants in the three other conditions ($F_s < 1$).

Indirect Effect. To provide additional evidence for the role of self-improvement motives, we also conducted a mediation analysis. The results show a significant indirect effect of guilt leading to selection of the self-improvement product through the pre-choice measure of self-improvement strivings (indirect effect = 0.13, $SE = 0.09$, $CI_{95} [0.02, 0.39]$). In other words, guilt activates a desire for self-improvement (coded 0 = control, 1 = guilt; $a = .24$, $SE = .11$, $CI_{95} [0.02, 0.47]$). In turn, those with a high desire for self-improvement are more likely to choose the self-improvement product ($b = .53$, $SE = .23$, $CI_{95} [0.08, 0.97]$). The analogous indirect effect linking guilt to the selection of the self-improvement product through the pre-choice measure of the intensity of the guilt feelings was not significant (indirect effect = 0.02, $SE = 0.30$, $CI_{95} [-0.54, 0.61]$; this result is further discussed in the general discussion).

Discussion

Taken together, the results of study 2 corroborate the findings from study 1 showing that those experiencing guilt (vs. a control condition) demonstrate preferences for self-improvement options. Further, while we acknowledge that this study does not directly measure participants' underlying motivation for selecting a self-improvement option, it nevertheless provides evidence that selecting a self-improvement option does not directly alleviate the feelings of guilt, but rather appears to be reducing the guilt-heightened desire for self-improvement. Taken together, the results of studies 1 and 2 suggest that the selection of these self-improvement products in response to guilt is indeed serving a self-improvement function.

STUDY 3

Study 3 was designed to test for the unique nature of the effect of guilt on preferences for self-improvement options over comparison options. We compare the effects of guilt on subsequent preferences against those of three theoretically related negative emotions using a recall procedure. First, we compare guilt with embarrassment and shame, two other common self-conscious emotions. We also use the more general state of sadness as a point of comparison and incorporate a neutral control condition in which participants did not recall an emotion. Study 3 also directly tests for an alternative explanation that our effect of interest relies on punishment-seeking (e.g., Nelissen and Zeelenberg 2009). That is, one alternative explanation for the observed effects is that participants in the guilt condition are selecting self-improvement products because this reflects some sort of penalty for the self, while the comparison product does not. We test for this potential alternative explanation by measuring participants' desire to seek punishment or negative outcomes for the self.

Method

Participants and Design. One hundred fifty-seven undergraduate students took part in this experiment (53% female, $M_{\text{age}} = 20.4$). The experiment was a 5 (emotion: guilt vs. shame vs. embarrassment vs. sadness vs. neutral) x 2 (product type: self-improvement vs. control) mixed-model design with product type as the within-participant factor. The dependent variable of interest was willingness to pay for each product.

Procedure. This study consisted of two ostensibly unrelated tasks. First, participants were randomly assigned to one of five emotional-recall conditions where they were initially asked to read a short definition of that emotion and then to briefly write about a time where they

experienced that emotion (adapted from Tangney et al. 1996). As noted previously, because most individuals have difficulty distinguishing among the different self-conscious emotions and often use the terms interchangeably in everyday language (Lewis 2010; Tangney et al. 1996), we presented participants with a short definition of the respective emotions before the recall procedure. The definitions described the typical antecedents and feelings associated with each emotion. For the three self-conscious emotions, participants read the same joint definition highlighting the differences and similarities among guilt, shame, and embarrassment that was adapted from the work of Tangney and colleagues (i.e., Tangney and Dearing 2002; Tangney et al. 2005; Tangney et al. 2007). In the sadness condition, the definition of sadness was adapted from Izard (1991; see Online Appendix E for both manipulations). Participants in the neutral condition proceeded directly to the second section of the questionnaire.

A separate pretest ($n = 153$) using 5-point items (1: the feeling is mild, 5: the feeling is extremely intense) supported the validity of this manipulation in activating the various emotional states. Contrast analysis revealed that participants expressed more intense feeling of “guilt” in the guilt condition compared to the four other conditions combined ($t(148) = 8.41, p < .001$). Analogous effects were observed for “shame” in the shame condition ($t(148) = 7.87, p < .001$), “embarrassment” in the embarrassment condition ($t(148) = 8.25, p < .001$), and “sadness” in the sadness condition ($t(148) = 10.34, p < .001$; see table 2 for details).

Insert table 2 about here

Second, participants read about two herbal teas that were part of a collection of herbal teas. The “Get Smart” and “Get Happy” flavors served as self-improvement and comparison

options, respectively. Participants read the descriptions of the functional benefits of each flavor in counterbalanced order. The “Get Smart” tea was described as designed to improve “brain power,” “IQ,” and “mental stamina.” Alternatively, the “Get Happy” tea had the function of “lifting spirits,” being “mood-enhancing,” and helping to “keep the blues away” (see Online Appendix F for details). After reading the description of both teas, participants were asked to use a slider to report their willingness to pay for a box of 20 individual teabags of this product: answers could range between \$0.00 and \$10.00. To control for an alternative explanation relying on desire for punishment, participants also rated the extent to which they were currently seeking punishment using four 7-point items (1: strongly disagree, 7: strongly agree): “I want to punish myself,” “I want to deny myself rewards,” “I seek penance,” and “I deserve to be penalized” ($\alpha = .89$).

Results

Willingness to Pay. Results from a repeated-measures ANOVA revealed a significant interaction between product type and emotion on willingness to pay ($F(4, 152) = 2.43, p = .05$; see figure 1) but no main effect of flavor ($F(1,152) = 1.10, p = .30$). Simple effects analysis for each type of emotion revealed that only participants in the guilt condition were willing to pay more for the self-improvement product ($M = \$5.14, SD = 2.36$) compared to the comparison product ($M = \$4.72, SD = 2.15; F(1, 152) = 4.25, p < .05$). In contrast, willingness to pay was not significantly different between the two products for participants in the embarrassment ($M_{SI} = \$4.78, SD = 1.79, M_{Comparison} = \$4.81, SD = 1.60; F < 1$), shame ($M_{SI} = \$4.51, SD = 2.30, M_{Comparison} = \$4.80, SD = 2.17, SD = ; F(1, 152) = 1.96, p > .15$), and neutral conditions ($M_{SI} = \$3.85, SD = 2.17, M_{Comparison} = \$4.02, SD = 2.37; F < 1$). Although not foreshadowed in our predictions, we also found that willingness to pay in the sadness condition appeared significantly

lower for the self-improvement product ($M = \$4.05$, $SD = 2.01$) compared to the comparison product ($M = \$4.43$, $SD = 2.25$; $F(1, 152) = 3.77$, $p = .05$).

Insert figure 1 about here

Looking at the results in a different way, we computed a difference score on willingness to pay for the products ($WTP_{\text{self-improvement}}$ minus $WTP_{\text{comparison}}$). Contrast analysis revealed that participants were willing to pay relatively more for the self-improvement product in the guilt ($M = \$0.42$, $SD = 1.03$) compared to the shame ($M = -\$0.29$, $SD = 1.07$; $t(152) = 2.44$, $p < .05$), sadness ($M = -\$0.38$, $SD = 1.13$; $t(152) = 2.83$, $p < .01$), and control conditions ($M = -\$0.17$, $SD = 1.08$; $t(152) = 2.19$, $p < .05$). Willingness to pay did not differ significantly between the guilt and embarrassment conditions ($M = -\$0.03$, $SD = 1.20$; $t(152) = 1.56$, $p = .12$).

Punishment-Seeking. Results from an ANOVA revealed a significant effect of emotion on desire for punishment-seeking ($F(4, 152) = 2.81$, $p < .05$). Punishment-seeking tendency marginally differed when comparing participants in the guilt condition ($M = 1.91$, $SD = 1.91$) to those in the control condition ($M = 2.47$, $SD = 1.56$; $t(152) = 1.91$, $p < .10$). Unexpectedly, however, the general trend was in the direction of punishment-seeking being lower in the guilt condition. In addition, no differences in punishment-seeking emerged when comparing the guilt condition to the other conditions ($M_{\text{Shame}} = 2.31$, $SD = 1.34$; $M_{\text{Embarrassment}} = 1.56$, $SD = 0.58$; $M_{\text{Sadness}} = 1.94$, $SD = 1.02$). These findings cast doubt on the account that participants were choosing self-improvement options out of a desire to seek out negative consequences for the self.

Discussion

The results of study 3 provide additional evidence for the proposition that guilt leads to a heightened desire for consumption choice options that have the potential to improve the self over comparison options. Compared to other emotions such as shame, embarrassment, and sadness, only guilt led to an increased willingness to pay for self-improvement relative to comparison products. In addition, note that our comparison option for this study—“Get Happy” tea—carried mood-management features, which further supports our contention that self-improvement motives serve a different function than mood-management. Although not formally hypothesized, the pattern reversal observed in the sadness condition is consistent with previous findings linking sadness to mood-management-types of consumption choices (Raghunathan et al. 2006). Finally, our effects do not appear to be readily explained by a heightened desire for punishment-seeking among those who experienced guilt.

STUDY 4

Study 4 was designed to further highlight the motivational nature of the observed effects. In particular, this study sets out to demonstrate that participants experiencing guilt will exhibit preferences for products that offer improvement benefits when choosing for the self (i.e., self-improvement), but not for others. Our conceptual framework proposes that because guilt activates a desire to *improve the self* in ways that allow the self to meet other important standards. As such, we should observe those experiencing guilt preferring self-improvement products when the choice option is for the self, but not for others.

This study also helps to further rule out an alternative explanation for the effects, relying on the possibility that because guilt is associated with “bad deeds”, it activates a generalized desire for options seen as “good deeds” (e.g., Sachdeva, Iliev, and Medin 2009). We note that

our pre-tests suggest that the self-improvement options used in our experiments do not differ from the comparison options in terms of the degree to which they are seen as virtuous or vice products, which already cast doubt on this alternative account. In addition, in study 4 we use a product that allows for either self-improvement for the self or for others. If guilt simply leads to a preference for good options then we should observe an equal tendency for people to prefer the self-improvement option for the self or another person after experiencing guilt. If, however, guilt is linked to a desire to improve the self, we should observe that guilt leads to stronger preferences for improvement products only when they are relevant to the self as opposed to others.

Method

Participants and Design. Two hundred forty-four participants recruited through a university-wide subject pool took part in this experiment (65% female, $M_{\text{age}} = 21.5$). The experiment was a 2 (emotion: guilt vs. neutral) x 2 (purchase target: self vs. others) x 2 (product type: self-improvement vs. comparison) between-participants design. The dependent variable of interest was willingness to pay for the product.

Procedure. Using the cover story of a study measuring how vividness of mental imagery relates to product preferences, participants were first asked to recall a time when they felt guilty or to recall a neutral event (i.e., their last visit to the supermarket). Second, participants were asked to imagine that they had visited a drug store to buy some snacks. In the self (other) condition, participants were asked to imagine that they (a friend) had been working really hard lately and had been experiencing trouble sleeping. They were asked to imagine considering buying a product that facilitates sleep for themselves (for their friend). The product was an all-natural oral dissolving tab aiding sleep (i.e., Sleep Sheets). In the improvement condition, the

product facilitating sleep was portrayed as promoting the experience of “improved daytime energy,” helping to “stay focused longer at work,” and promoting “brain power and physical strength day after day.” In the comparison condition, the same product was portrayed as promoting the experience of “restful sleep and tranquility,” helping to “stay asleep longer in your bed,” and promoting “sleep comfort night after night” (see Online Appendix G for details). Participants were then asked to provide their willingness to pay for a box of 5 Sleep Sheets for themselves (for their friend).

Results

Willingness to Pay. Results from an ANOVA revealed a significant three-way interaction between emotion condition, product type, and purchase target on willingness to pay ($F(1, 236) = 4.16, p < .05$; see figure 2). For participants in the guilt condition there was a significant two-way interaction between product type and purchase target on willingness to pay ($F(1,236) = 8.73, p < .001$). For those in the control condition, no such interaction emerged ($F < 1$).

Insert figure 2 about here

Simple effect analysis revealed that participants in the guilt condition were willing to pay marginally more for the improvement product when buying for the self ($M = \$5.00, SD = 1.69$) than when buying for others ($M = \$3.83, SD = 2.44; t(236) = 1.86, p = .06$). Participants preferred to pay more for the comparison product when buying for others ($M = \$4.97, SD = 2.37$) than when buying for the self ($M = \$3.54, SD = 2.45; t(236) = 2.32, p < .05$). Stated differently, we replicated our previous findings in showing that those buying for themselves were willing to pay more for the improvement product compared to the comparison product ($t(236) =$

2.32, $p < .05$). In addition, and not foreshadowed in our predictions, participants buying for others were willing to pay marginally more for the comparison product compared to the improvement product ($t(236) = 1.85, p = .07$). An additional contrast analysis revealed that for participants in the guilt condition purchasing an improvement product for the self, willingness to pay for the product was higher than for all four of the cells in the neutral condition averaged ($t(236) = 2.78, p < .01$).

Discussion

Study 4 illustrates the self-motivational nature of the process by which guilt leads to preferences for improvement products. We show that guilt leads to preference for products positioned toward improvement when purchasing for the self, but not for others. This finding supports the proposition that guilt specifically activates a desire for improvement linked to the self. Importantly, we also provide support for the specificity of our framework—over previous studies comparing choices between two different options—by showing that the relationship between guilt and product evaluation is driven by the extent to which the product can help improve the self, not the positive nature of the product.

One unanticipated finding that emerged in the current study was that participants reported a higher WTP for the comparison product compared to the self-improvement product when buying for others in the guilt condition. One possible explanation for this effect could be that participants were motivated to address their negative mood associated with guilt (vs. neutral recall) by providing help to others (Regan et al. 1972), but were also trying to avoid further transgressions against other (Cohen, Panter, and Turan 2012). It may be the case that offering a product to another person that is specifically aimed at improvement might be seen as

inappropriate because it could imply that the other person is falling short on some dimension. Indeed, research does suggest that individuals are often reluctant to offer prescriptions of improvement to others (Taut and Brauns 2003). We conducted a follow-up study ($n = 159$) to examine this proposition (see Online Appendix I). This follow-up study demonstrated the replicability of this finding and also provided mediational evidence that products aimed at improvement of an individual may be perceived as inappropriate and awkward when offered to others (“It would feel awkward to offer my friend this type of product,” “I would feel uncomfortable giving this product to my friend,” “I would feel embarrassed to give this product to my friend;” 1: not at all, 7: very much; $\alpha = .95$). While this finding is not the focus of the current article, it shows a novel effect that might be pursued in future research.

STUDY 5

Study 5 was designed to identify a theoretically relevant boundary condition for the observed effects. We expect that, because self-improvement involves a change in the self, lay beliefs about the malleability of the self should relate to how people approach self-improvement (Dweck 2000; Molden and Dweck 2006). Individuals who believe that the self can be modified and improved (i.e., incremental theorists) should be more likely to pursue opportunities for self-improvement following the experience of guilt. Alternatively, individuals who see the self as fixed (i.e., entity theorists) should not display such increases in preferences for self-improvement products after experiencing guilt. Based on our conceptual framework, this study tests the proposition that following the experience of guilt, participants holding an incremental self-theory should exhibit stronger preferences for self-improvement consumption choice options than those holding an entity self-theory.

This study also compares the effect of guilt with the effect of envy on the desire for self-improvement products. Envy is an emotion that also makes salient that one has fallen short of a standard, although in this case the standard has been set by another individual rather than the self. As such, envy is often associated with social comparison and status (Smith and Kim 2007) and often triggers the desire to better one's position vis-à-vis others, through ownership of status products (van de Ven, Zeelenberg, and Pieters 2009, 2011). We should therefore expect self-theories to affect differently participants in the guilt, envy, and neutral conditions. Specifically, individual differences in personal beliefs about self-theory should have a stronger effect in the guilt compared to the neutral condition because of a guilt-activated desire for self-improvement. Beliefs about self-theory should also have a stronger effect in the guilt compared to the envy condition because self-theories focus on one's ability to change the self through effort, a mechanism that does not immediately offer the status enhancement benefits sought by those experiencing envy.

Method

Participants and Design. Three hundred ninety participants recruited through Amazon Mechanical Turk took part in this experiment (45% female, $M_{\text{age}} = 34.0$) which uses a 3 (emotion: guilt vs. envy vs. neutral) x continuous (self-theory: incremental vs. entity orientations) between-participants design. The dependent variable of interest is the evaluation of a product with self-improvement qualities.

Procedure. First participants were asked to complete a questionnaire ostensibly designed to measure their level of visual imagery when thinking about life events. Participants were asked to write about a time where they experienced guilt, envy, or a neutral event. In the envy

condition, participants were specifically asked to recall a time where they “envied the superior qualities, achievements, or possessions” of someone else (Lange and Crusius 2014). This measure was followed by a manipulation check testing the validity of the manipulation in activating the desired emotion by asking participants to describe the extent to which they were currently feeling “guilty,” and “envious” using a two 7-point scales (1: not at all, 7: very much). Participants were then asked to evaluate the usefulness of a self-improvement product (same tea as study 3) using three bi-polar 7-point items: “uninteresting-interesting,” “boring-engaging,” “unhelpful-helpful” ($\alpha = .93$; adapted from Tamir, Mitchell, and Gross 2008). Participants then completed an individual difference measure that assessed the degree to which they held more entity versus incremental views of the self (e.g., “You can do things differently, but the important parts of who you are can’t really be changed;” 1: strongly agree, 6: strongly disagree; where higher scores are characteristic of a belief in one’s ability to change the self; $\alpha = .94$; Dweck 2000).

Results

Manipulation Check. As anticipated, contrasts revealed that participants experienced significantly more guilt in the guilt condition ($M = 4.49$, $SD = 1.76$) compared to the envy ($M = 2.74$, $SD = 1.78$; $t(387) = 9.16$, $p < .001$) and neutral conditions ($M = 1.40$, $SD = .88$; $t(387) = 16.09$, $p < .001$). Contrasts also revealed that participants experienced significantly more envy in the envy condition ($M = 3.76$, $SD = 1.92$) compared to the guilt ($M = 1.66$, $SD = 0.99$; $t(387) = 12.39$, $p < .001$) and neutral conditions ($M = 1.36$, $SD = .88$; $t(387) = 14.38$, $p < .001$).

Product Usefulness. A regression model with dummy coding (dummy 1 = neutral; dummy 2 = envy) and participants’ score on the self-theory scale (centered) as predictor of

product usefulness suggested a more positive score in the guilt condition ($M = 4.51$, $SD = 1.68$) compared to the neutral condition ($M = 4.07$, $SD = 1.68$; dummy 1: $b = -.49$, $SE = .21$, $t(384) = 2.27$, $p < .05$), and in the guilt compared to the envy condition ($M = 3.92$, $SD = 1.81$; dummy 2: $b = -.64$, $SE = .21$, $t(384) = 2.97$, $p < .01$). The results also revealed a significant effect of self-theory on product usefulness in the guilt condition (moderator: $b = .32$, $SE = .13$, $t(384) = 2.40$, $p = .01$). Yet, this effect of self-theory was significantly weaker in the neutral compared to the guilt condition (dummy 1 X moderator: $b = -.36$, $SE = .18$, $t(384) = 1.99$, $p < .05$), and weaker in the envy compared to the guilt condition (dummy 2 X moderator: $b = -.29$, $SE = .18$, $t(384) = 1.59$, $p = .11$). Next, we used the Johnson-Neyman technique to examine where along the continuum of self-theory participants evaluation scores differed significantly between the guilt and the neutral or envy condition. Results of a 5,000 sample bootstrap resampling method for multicategorical variables (Hayes and Preacher 2013) revealed that for participants who scored at 3.47 or above on the self-theory scale (46th percentile) the difference between the guilt and the neutral conditions was significant and for those who scored a 2.69 or above on the scale (21th percentile) the difference between the guilt and the envy conditions was significant. We illustrate these interactions by plotting the projected values for those holding a belief in entity (2.45: 1SD below the mean) and incremental (4.84: 1SD above the mean) self-theory in figure 3.

Insert figure 3 about here

Discussion

Study 5 extends our understanding of the observed phenomena by highlighting a theoretically relevant boundary condition for our effects. Consistent with our theorizing, our

effects are observed only among those who view self-improvement as an attainable outcome. Among those who view the self as relatively fixed, guilt was not shown to lead to a preference for self-improvement options. In addition, this study found dissimilar effects of guilt and envy on desire for self-improvement suggesting that the two emotions may be activating different needs. As such, it is possible that the self-improvement product of interest (i.e., a box of herbal tea) did not carry the self-improvement features that those experiencing envy were looking for (i.e., status). We further discuss this point in the General Discussion section.

GENERAL DISCUSSION

Taken together, the results of six studies provide converging evidence that the experience of guilt can lead to increased preferences for self-improvement consumption options in domains different from where the guilt originated. The pilot field study provides an initial demonstration of the effect of guilt in leading to preferences for self-improvement products. Study 1 replicates this effect and demonstrates how this effect stems from a generalized desire to self-improve. Study 2 provides further evidence for the notion that our effect of interest occurs because of a guilt-heightened desire for self-improvement while suggesting that choosing a self-improvement product does not directly alleviate the experience of feelings of guilt, but rather reduces the desire for self-improvement. Study 3 demonstrates that this effect occurs only for guilt, but not for other emotions such as shame, embarrassment, sadness, and neutral, while ruling out an alternative explanation relying on a desire for self-punishment. Study 4 demonstrates that our effect is self-motivated—it only emerges when the choice is applicable to the self, not to others. Study 5 examines an additional boundary condition, demonstrating that guilt-induced desire for self-improvement is attenuated for those who hold a belief that self-qualities are fixed and that

no amount of effort can change them over time. This last study also provides evidence for dissimilar effects between guilt and envy on the desire for self-improvement.

Theoretical Contributions of the Research

Our account of this unique downstream effect of guilt on consumption choices is consistent with the notion that discrete emotions are associated with distinctive goals leading to distinct behaviors (Roseman, Spindel, and Jose 1990; Roseman, Wiest, and Swartz 1994) or influences on judgments (Lerner and Keltner 2000). In the same spirit, the current research offers several theoretical contributions.

First, the results of the current work show that guilt increases preference for products allowing for self-improvement (studies 1 and 2), and these products are preferred over a variety of comparison options that serve different functions: hydration (pilot study), financial benefits (study 2), mood-management (studies 3), and relaxation (study 4). By suggesting desire for self-improvement as a novel outcome of guilt, this work builds on and extends past research showing that guilt can lead to behaviors aimed at uplifting one's mood (e.g., Konecni 1972) or denying oneself indulgence (e.g., Zemack-Rugar et al. 2007). Indeed, our findings suggest the results do not appear to be driven by the desirability or the hedonic attributes of the products (see Online Appendix H), and the choice of self-improvement options does not appear to directly alleviate feelings of guilt (study 2). Our unique account of how guilt leads to cross-domain desire for self-improvement also differs from previous work on moral self-regulation (e.g., Effron, Cameron, and Monin 2009; Merritt et al. 2012; Monin and Miller 2001) suggesting that people track their moral and immoral actions and proceed to compensatory internal balancing of moral self-worth (e.g., a "bad" deed can be compensated for by a "good" deed; Jordan, Mullen, and Murnighan

2011; Sachdeva et al. 2009). The current findings depart from these previous results because they occur with products that do not differ on their positioning as vice or virtue options.

Second, we illustrate the underlying motivational process for this effect by showing how guilt-induced preferences for self-improvement products stems from an activated generalized desire to improve the self (study 1 and 2). We further illustrate the self-motivational nature of this process by showing how it is mitigated when the purchase is for others (study 4). These findings carry important implications in light of a growing body of work on compensatory consumption (e.g., Kim and Gal 2014; Rucker and Galinsky 2008; Williams and Steffel 2014) by improving our understanding of the role of emotions and their associated motivational responses leading to behavioral actions aimed at improving the self.

Third, the studies presented here extend the broad marketing literature focusing on guilt appeals and their effectiveness (e.g., Cotte, Coulter, and Moore 2005; Coulter and Pinto 1995; Duhachek et al. 2012; Huhmann and Brotherton 1997; O’Keefe 2002) by offering a novel mechanism through which guilt can influence consumer choices. While this literature has primarily focused on how guilt triggers an avoidance of options associated with future remorse (e.g., selecting the healthier food option because of the anticipated guilt associated with the indulgent one), we instead bring to light guilt’s ability to increase preference for consumption choice options aimed at bettering the self. Because guilt is often associated with important societal issues (e.g., over-eating, over-spending, failure to respect the environment, failure to donate to charity), improving our understanding of how the negative emotion of guilt—and promotional communications relying on guilt (pilot study)—can serve as a motivator of self-beneficial actions bears important practical implications for addressing these crucial societal outcomes.

Practical Implications and Future Research

Marketers and policy makers wishing to encourage consumers to select self-improvement products or engage in self-improving behaviors might therefore consider drawing attention to guilt in alternative domains to facilitate action. For example, the 2012 award-winning campaign by Nike Spain tells consumers: “If something is burning you up, burn it up by running.” This campaign illustrated various remorseful situations and suggested that one response to this might be to improve the self in the physical domain (see Online Appendix J for an example). Because our research highlights the importance of a belief in one’s ability to change for positive cross-domain outcomes of guilt to emerge, efforts to promote desirable self-changes using cross-domain guilt should be done in conjunction with communicating that one can change the self. Further, because people regularly struggle with guilty feelings related to diverse aspects of their lives, our work suggests avenues that would allow people to more constructively respond to such guilt.

Our results are limited to the context in which we performed our inquiry, which opens the door to a number of opportunities for future research. For example, our experiments were run exclusively on North American samples. Existing research has questioned the universality of guilt and suggested that in Eastern cultures, guilt might be an indistinguishable component of a family of negative emotions concerned with not losing face (see Haidt 2003). Previous investigations have also observed differences between independent and interdependent cultures in terms of their action-readiness (e.g., Heine et al. 2001; White and Lehman 2005) and have suggested that shame in Eastern cultures might be one of the two emotions triggering reparative actions (Wong and Tsai 2007). In this context, it is possible that the observed differences between shame and guilt leading to preferences for self-improvement products are restricted to a

Western context. Alternatively, it is possible to expect that our effect of interest occurs vicariously in Eastern cultures because research has demonstrated that people experience vicarious guilt in contexts where they perceive interdependency—high interpersonal interaction—with a wrongdoer (Lickel et al. 2005). Future research should seek to better identify differences in cross-cultural behavioral responses specific to each emotion.

In addition, we did not find evidence that our effect of interest was driven by a desire for punishment (Nelissen 2012; Nelissen and Zeelenberg 2009). Given that our options were viewed as being equally desirable and participants did not report greater desire for self-punishment in response to guilt, self-punishment seeking did not parsimoniously account for the findings in the current studies. One interesting possibility, however, is that our results were influenced by how we defined and manipulated guilt in our studies (see Basile and Mancini 2011). While our definition of guilt relies on the notion that guilt arises from an awareness that one has failed to meet an important self-standard, Zeelenberg and colleagues use a definition wherein guilt “does not necessarily require the violation of a moral standard, only the realization that another was harmed by one’s actions” (p.118; Nelissen and Zeelenberg 2009). Thus, the literature points to the possibility that there may exist different ways in which guilt can become activated. Future research should investigate how these dissimilar characterizations of guilt influence subsequent action-readiness and behavioral responses (see van de Ven et al. 2009 for a parallel with envy).

Future research could also seek to improve our understanding of the relationship between the intensity of the guilt feelings and desire for self-improvement. One possibility is that there is an inverted U-shaped relationship where a moderate amount of guilt is energizing and triggers desires to self-improve, but too much guilt is depleting and paralyzing (Lucas 2004). The current findings also raise many questions about the conscious (vs. unconscious) nature of our effect.

That is, all of our manipulations involve instances of consumers experiencing guilt consciously. However, previous research has found that guilt can also be primed or experienced without awareness (Goldsmith et al. 2012; Zemack-Rugar et al. 2007) which raises the question of whether or not desire for self-improvement occurs exclusively as a by-product of conscious guilt (see Fitzsimons et al. 2002). Evidence on the topic is mixed. On the one hand, previous research clearly suggests that goals can be non-consciously primed (e.g., Chartrand and Bargh 2002) and even that a lack of awareness about difficult or frightening realities offer the benefit of allowing one to better act upon them (Baumeister 1989). On the other hand, it has also been shown that a lack of awareness about negative self-information can prevent the occurrence of a motivation to compensate for one's shortcomings (Spalding and Hardin 1999). Further research is needed to fully understand the relationship between guilt and self-improvement.

Future research should also focus on improving our understanding of the nuances underlying the activation of self-improvement motives. For example, while previous research has linked the emotion of envy to a desire for improving one's own status vis-à-vis others (e.g., van de Ven et al. 2009), our result suggest that this motivation acts differently from the one activated by guilt. We believe that the nature of the self-improvement process we focussed on could explain such differences. For instance, because envy focusses mainly on social comparison (Smith and Kim 2007), it is possible that the self-improvement motivation arising from envy is predominantly concerned with status enhancement, whereas the self-improvement products we studied mostly focussed on enabling participants to better facets of their selves. Further inquiries on the motivational aspects underlying self-improvement should thus focus on better understanding how the public or private nature of a self-improvement option—and its implications for self-signaling (e.g., Dhar and Wertenbroch 2012; Savary, Goldsmith, and Dhar

2015)—affects the intensity of this relationship. For example, the various instances of successful public commitments to self-improvement (e.g., Weight Watchers, Alcoholics Anonymous) might suggest that the mostly private effects observed in this research would be strengthened when facing other's judgement because it would also answer the need for restoring self-image to others. Clearly, more research focussing on improving our understanding of the complex process underlying people's general desire for self-improvement is needed.

Future research could also examine additional potential moderators of the effect of guilt on self-improvement. For instance, as an alternative measure to self-theory, it could be interesting to determine the role of future-self connection (Ersner-Hershfield, Wimmer, and Knutson 2009). It may be that people high on connection with their future selves might be more likely to seek self-improvement consumption choice options after experiencing guilt due to their long-term view of the self. While the present research points to multiple directions for future research, it is an important first step in demonstrating that the experience of guilt can lead to seeking out options enabling the self to improve.

DATA COLLECTION

The first author collected the data for this set of studies under the supervision of the second author. Data for the pilot study were collected on the University of British Columbia campus during orientation week in September 2013. Data for studies 2-3-4 were collected by research assistants at the University of British Columbia Research Lab. Data for study 1 and 5 were collected on Amazon Mechanical Turk. Pre-tests were conducted on participants recruited through both a university subject pool and Amazon Mechanical Turk.

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TABLE 1

**STUDY 2: PRE- AND POST-CHOICE GUILT AND DESIRE FOR SELF-IMPROVEMENT
BY EMOTION CONDITION**

Product Choice	Guilt Condition (n = 85)		Control Condition (n = 81)	
	<i>M_{Pre}</i> (SD)	<i>M_{Post}</i> (SD)	<i>M_{Pre}</i> (SD)	<i>M_{Post}</i> (SD)
Guilt Rating (1: not at all, 7: very much)				
Self-Improvement	5.24 (1.36) ^a	4.19 (1.64) ^a	2.38 (1.56)	2.05 (1.30)
Money Only	5.01 (1.11) ^b	4.12 (1.19) ^b	2.58 (1.56)	2.49 (1.44)
Desire for Self-Improvement (-3: strongly disagree; +3: strongly agree)				
Self-Improvement	2.60 (0.60) ^c	2.52 (0.66) ^c	2.37 (0.66)	2.40 (0.68)
Money Only	2.28 (0.86)	2.31 (0.82)	2.12 (0.84)	2.09 (0.99)

Note. Letters denote a significant within-condition difference between pre and post measure by choice.

TABLE 2

STUDY 3: RESULTS FOR THE PRE-TEST VALIDATING THE EMOTIONAL
MANIPULATION.

Experimental Condition	Emotional Rating (1: the feeling is mild, 5: the feeling is extremely intense)			
	Guilt <i>M</i> (SD)	Shame <i>M</i> (SD)	Embarrassment <i>M</i> (SD)	Sadness <i>M</i> (SD)
Guilt	4.04 (1.00) ^a	3.00 (1.55)	2.65 (1.50)	3.62 (1.39)
Shame	3.63 (1.28)	4.15 (0.99) ^b	2.78 (1.65)	3.59 (1.22)
Embarrassment	1.96 (1.26)	2.75 (1.38)	4.39 (0.79) ^c	2.18 (1.12)
Sadness	2.11 (1.05)	1.97 (1.25)	2.06 (1.41)	4.63 (0.55) ^d
Control	1.08 (0.36)	1.14 (0.48)	1.30 (0.88)	1.30 (0.57)

Note: Letters denote a value significantly higher ($p < .001$) than its closest experimental condition.

FIGURE 1

STUDY 3: WTP FOR SELF-IMPROVEMENT AND COMPARISON PRODUCTS AS A FUNCTION OF EMOTION CONDITION

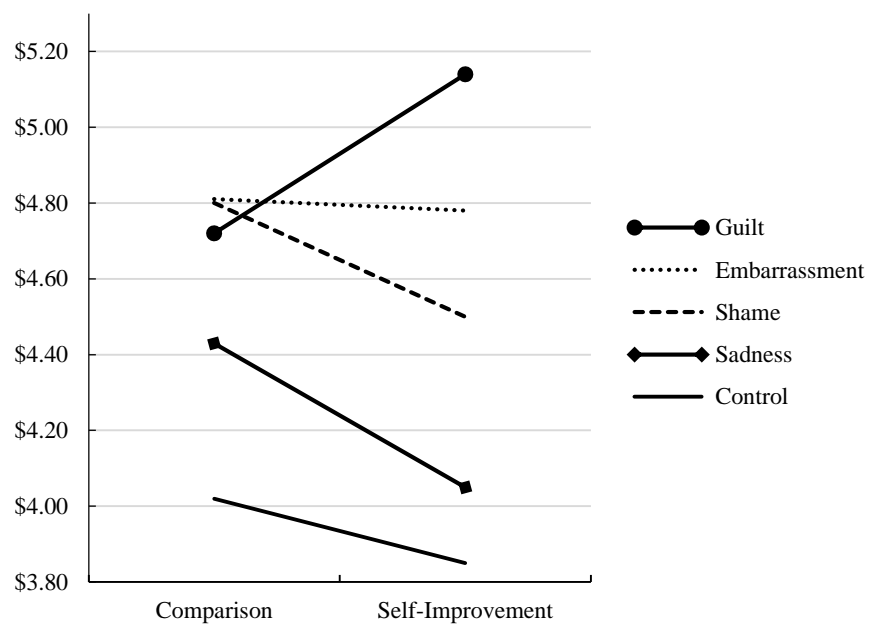


FIGURE 2

STUDY 4: WTP FOR SELF-IMPROVEMENT AND COMPARISON PRODUCTS AS A FUNCTION OF EMOTION AND PURCHASING FOR SELF OR FOR OTHER

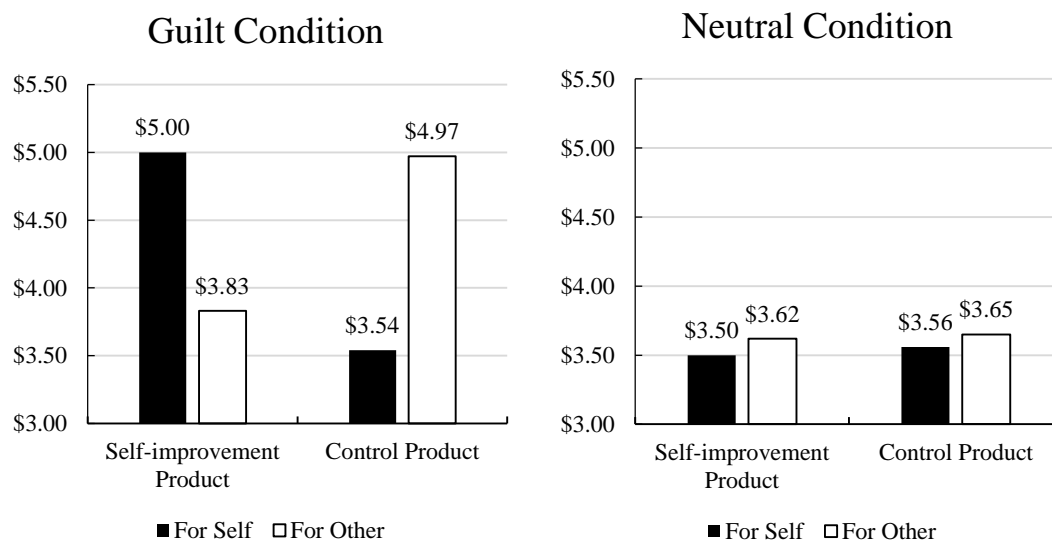
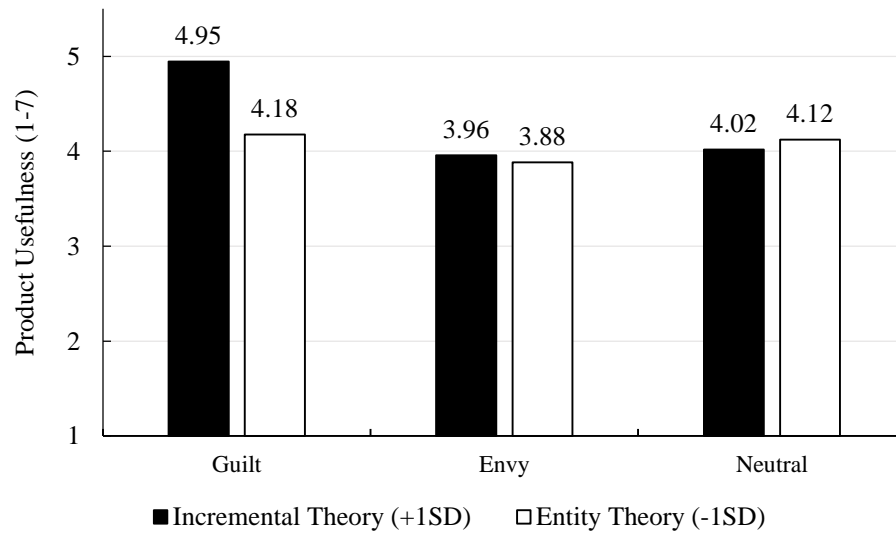


FIGURE 3**STUDY 5: PRODUCT USEFULNESS AS A FUNCTION OF EMOTION AND SELF-THEORY**

Note: Values denote projected scores.

HEADING LIST

- 1) **THEORETICAL DEVELOPMENT**
- 2) Guilt and Reparative Actions
- 2) Guilt and Self-Improvement
- 2) The Unique Nature of Guilt
- 1) **OVERVIEW OF THE RESEARCH**
- 1) **PILOT STUDY**
- 2) Method
- 3) *Participants and Design.*
- 3) *Procedure.*
- 2) Results
- 2) Discussion
- 1) **STUDY 1**
- 2) Method
- 3) *Participants and Design.*
- 3) *Procedure.*
- 2) Results
- 3) *Self-Improvement Strivings.*
- 3) *Usage Likelihood.*
- 3) *Indirect Effect.*
- 2) Discussion
- 1) **STUDY 2**
- 2) Method
- 3) *Participants and Design.*
- 3) *Procedure.*
- 2) Results
- 3) *Pre-Choice Guilt.*
- 3) *Pre-Choice Self-Improvement Motivation.*

- 3) *Product Choice*
- 3) *Pre/Post-Choice Guilt.*
- 3) *Pre/Post-Choice Self-Improvement Motivation.*
- 3) *Indirect Effect.*
- 2) Discussion
- 1) **STUDY 3**
- 2) Method
- 3) *Participants and Design.*
- 3) *Procedure.*
- 2) Results
- 3) *Willingness to Pay.*
- 3) *Punishment-Seeking.*
- 2) Discussion
- 1) **STUDY 4**
- 2) Method
- 3) *Participants and Design.*
- 3) *Procedure.*
- 2) Results
- 3) *Willingness to Pay.*
- 2) Discussion
- 1) **STUDY 5**
- 2) Method
- 3) *Participants and Design.*
- 3) *Procedure.*
- 2) Results
- 3) *Manipulation Check.*
- 3) *Product Usefulness.*
- 2) Discussion

- 1) **GENERAL DISCUSSION**
- 2) Theoretical Contributions of the Research
- 2) Practical Implications and Future Research