

# Your Cheatin' Heart: How Emotional Intelligence and Selfishness Impact the Incidence of Consumer Fraud

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Consumers routinely engage in fraudulent behaviors toward companies including returning products under false pretenses, lying when making insurance claims, and committing petty theft. However, research has been relatively limited in examining the psychological mechanisms that contribute to such behavior. Based on dual-processing models of morality, differences in an individual's emotional intelligence and selfishness are predicted to impact the likelihood of committing consumer fraud. In a departure from previous research highlighting the prosocial benefits of emotional intelligence, seven studies show that consumers with higher levels of emotional intelligence and greater selfishness are more likely to commit fraud. Highly selfish and emotionally intelligent consumers possess the motivation and ability to suppress feelings of embarrassment that normally deter consumers from committing various routine, less severe forms of consumer fraud.

**Keywords:** consumer fraud, embarrassment, emotional intelligence, selfishness, theft

Individuals frequently engage in various forms of fraudulent behavior targeted at organizations. Activities, such as insider trading, money laundering, and tax fraud garner significant media attention, yet the Justice Department of

the United States prosecutes less than 100 of these such cases per 10 million citizens (TRAC Reports 2020). Far more commonplace are the everyday forms of consumer fraud targeted at companies that involve direct theft or deceit to gain benefits that would not otherwise be received. For example, consumer theft is particularly common in retail environments, as more than 22 million consumers in the U.S. alone have shoplifted at some point (National Association for Shoplifting Prevention 2014) and yearly estimates of consumer shoplifting exceed 17 billion dollars of retail goods (Reilly 2017). Service providers are also susceptible to fraud, as the FBI estimates over 40 billion dollars in fraudulent insurance claims are made each year (FBI 2016). Furthermore, piracy and intellectual property theft on the internet is commonplace, as websites devoted to illegal file sharing, such as ThePirateBay.org receive more than 300 million visitors a month (Halimi 2015).

While many agencies and interest groups have examined the financial costs associated with consumer fraud, academic research has been limited in understanding the

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psychological mechanisms that contribute to such behavior. Research on morality and honesty has noted that consumers possess two competing cognitive motivations: the desire for positive self-concept and the desire to gain from immoral acts (Mazar, Amir, and Ariely 2008). Given these tradeoffs, consumers may engage in rationalization processes to maintain a positive self-concept despite engaging in various acts of dishonesty and cheating (Mazar et al. 2008; Vincent, Emich, and Goncalo 2013). Furthermore, individuals may even use these rationalization processes to alter their recall of previous immoral acts to preserve a favorable self-image (Jordan, Leliveld, and Tenbrunsel 2015).

Despite these important studies, we propose that the cognitions and rationalization processes described in previous research on moral tradeoffs are less relevant to consider in the more routine, everyday forms of consumer fraud. Instead, we propose that situational affective responses can greatly influence consumers when considering fraudulent acts, and thus research should examine what psychological mechanisms impact how that information is processed. Prior research supports this contention, as momentary emotions, such as excitement and pleasure arise from the temptation of rule-breaking, leading to increased shoplifting (Cox, Cox, and Moschis 1990). Further, many consumers do not consider stealing from retailers until feelings of temptation override the negative consequences typically associated with theft (Nettler 1985). Thus, to better understand how emotions impact the incidence of fraud, one area of particular importance is examining differences in how consumers process emotional information (i.e., emotional intelligence, hereafter EI). Whereas negative emotions often deter immoral behavior (Tangney, Stuewig, and Mashek 2007), we propose a trait-based account of emotional intelligence to better understand how these negative emotions are recognized, processed, and managed in consumer fraud decisions.

The idea that EI is associated with unfavorable outcomes is counterintuitive and uncommon in extant literature. Considerable research indicates a variety of favorable marketing outcomes associated with EI, including higher quality food choices (Kidwell, Hardesty, and Childers 2008), successful entrepreneurship (Humphrey 2013), better client-service provider relationships (Yim, Tse, and Chan 2008), and enhanced buyer-seller relationships (Kidwell et al. 2011). Yet, it stands to reason that if people are good at using emotions, they could potentially use them to achieve deviant outcomes. Accordingly, a few studies outside of marketing have suggested that EI can also lead to negative outcomes. For example, in the area of criminology, incarcerated criminals were shown to score higher on measures of EI (Hemmati, Mills, and Kroner 2004), and higher EI is associated with greater delinquency in youth (Bacon and Regan 2016). Other research has shown that higher EI is associated with being more manipulative (Nagler et al.

2014), and in management, treating coworkers poorly (Côté et al. 2011). Thus, it remains unclear as to when and why EI can lead to favorable and unfavorable outcomes.

To be more likely to commit fraud, we suggest that consumers must have the ability to use their emotions skillfully, but also possess selfish motives. Consumers employ their emotional intelligence to achieve desired outcomes. The valence of these outcomes we suggest depends on the valence of their motives. If motives are not selfish (e.g., other-focused), a person with high EI will use the negative affect associated with immorality as a cue to resist committing various forms of fraud. However, if motives are selfish, a person with high EI will use their emotions to assist their selfish goals, likely reasoning in a way that allows them to reduce their negative feelings toward the fraudulent behavior that might otherwise deter such acts.

In the current research, we explore the psychological processes that contribute to the incidence of consumer fraud by evaluating the interaction between the ability to use emotions (EI) and selfish motives (selfishness). We suggest that high EI consumers who are more focused on selfish motives will engage in moral reasoning that reduces feelings of embarrassment. Relative to other moral emotions, such as guilt and shame, embarrassment is particularly relevant to consumer fraud given the less severe nature of these behaviors and the violation of social norms if one were to be caught lying or committing petty theft. Furthermore, we examine the impact of EI and selfishness on fraud behaviors in various contexts, including a study examining actual product theft. Together, our research contributes to consumer fraud and emotional intelligence literature by providing novel insights into how moral emotions can influence why consumers lie, cheat, and steal from companies.

## CONCEPTUAL BACKGROUND

### Consumer Fraud

We define consumer fraud as any type of fraudulent behavior that occurs against an organization or company within a consumption environment. Specifically, we focus on routine, everyday forms of consumer fraud, such as returning a product under false pretenses, committing insurance fraud, and petty theft. We also examine fraudulent and/or illegal acts against companies, and not against other consumers, as consumers are likely to experience different moral emotions in response to considering acts of fraud against companies.

Moral emotions play a critical role in an individual's determination of whether to commit an immoral act. Tangney et al. (2007) propose that guilt, shame, and embarrassment comprise the triad of moral emotions that influence subsequent moral decision-making. Guilt and shame are internal emotions that involve self-reflection about a choice (guilt)

or introspection about one's moral character (shame; Sheikh and Janoff-Bulman 2010; Tangney et al. 2007). Guilt and shame are also experienced in moral transgressions related to norm violations even when no one else observes the immoral act (Tomasello and Vaish 2013). However, embarrassment, which is characterized as "an aversive state of mortification, abashment, and chagrin that follows public social predicaments" (Miller 1995), is often elicited when an inferior aspect of oneself is seen by others (Smith et al. 2002; Tangney et al. 2007). Given the unique characteristics of embarrassment relative to other moral emotions, we propose that embarrassment is particularly relevant to consider in minor, everyday forms of consumer fraud.

### The Role of Embarrassment

While the moral emotions of guilt, shame and embarrassment are negative affective states evolved in humans to reinforce group cohesion, embarrassment is a uniquely self-conscious emotion where a person becomes aware of a failure to comply with social norms and fears that others will view them more negatively (Tangney et al. 2007). Unlike guilt and shame that are inwardly focused and private emotions, embarrassment is outwardly focused with a greater potential to publicly expose inferior aspects of oneself that result from one's behavior. We define embarrassment as an aversive state of being self-conscious of a failure to comply with social norms and those others will view the person less highly as a result. Conversely, guilt and shame are privately held, internally focused, and related to living up to either one's own standards (guilt) or societal standards (shame) where people experience regret (Thibodeau, Kim, and Jorgensen 2011). Feelings of regret from guilt and shame typically result from more serious offenses directed toward others (Tangney et al. 2007). In contrast, embarrassment emerges in less severe, more routine norm violations (Tangney et al. 2007), which we propose include behaviors associated with consumer fraud, such as lying, cheating, and petty theft.

Additionally, individuals often evaluate an entity's capacity to feel and be impacted by an immoral decision (Gray, Young, and Waytz 2012). In the cases of companies, corporations, and other nonhuman entities in consumption environments, individuals frequently ascribe less of an ability for these organizations to feel pain and suffer from immoral acts (Manning 1984; Silver 2019). Whereas guilt and shame are particularly salient when making moral decisions that involve other individuals (Tomasello and Vaish 2013), these feelings should be less impactful in determining whether to act immorally against an agent that has less of a capacity to suffer from an immoral act (i.e., a company). Conversely, embarrassment should remain relatively salient as it is less impacted by who the immoral act is committed against. Thus, since embarrassment is more

reflective of less severe violations of norms that have a high potential to publicly expose inferior aspects of oneself (Miller and Tangney 1994), and remains salient regardless of the target's capacity to feel and be impacted by an immoral decision (Gray et al. 2012), it is likely that embarrassment is the primary underlying emotion of consumer fraud toward companies, corporations, and other nonhuman entities.

To understand how emotions, such as embarrassment influence moral decision-making, dual-processing models of moral reasoning have been developed (Greene et al. 2001). These models propose that individuals must possess both the motivation and ability to engage in more deliberative reasoning to override one's learned moral emotions toward a decision (Bostyn et al. 2020; Greene et al. 2001). For example, cognitive fatigue and cognitive load can reduce deliberation about judgments of morality, such that individuals rely on the negative affect (e.g., guilt, shame, and embarrassment) associated with immorality and make judgments to avoid such feelings (Paharia, Vohs, and Deshpandé 2013; Timmons and Byrne 2019). Because felt emotions often deter individuals from committing various immoral acts (Tangney et al. 2007), individuals must possess both the motivation and ability to process these feelings in such a way that reduces their influence on behavior. Here, we propose that the interaction of selfishness and EI provide the motivation and ability for consumers to engage in moral reasoning about fraud decisions and reduce the felt embarrassment toward the decision to commit various forms of consumer fraud. In the sections that follow, we explore selfishness and EI in more detail and make formal predictions regarding their interactive effect on the incidence of consumer fraud.

### Motivation: Selfishness

Following extant research (Crocker, Canevello, and Brown 2017; Dubois, Rucker, and Galinsky 2015) and everyday language, selfishness is defined as a concern for one's own welfare at the expense of others. Selfishness is a distinct construct from unethical behavior, despite both being closely linked in the realm of moral decision-making. Lu et al. (2018) distinguish between these concepts, suggesting that a selfish behavior may or may not be unethical. For example, stealing money from work would be considered selfish and unethical, while donating to a charity to receive a tax break is selfish but ethical.

Given the motivational properties of selfishness in moral decision-making, we propose that being selfish contributes to moral reasoning processes that enhance the incidence of consumer fraud. However, the motivational properties of selfishness are unlikely to regulate feelings of embarrassment that often deter fraudulent behavior. For example, being selfish does not allow a person to control and overcome learned aversive feelings toward the decision to

steal. Rather, selfishness only promotes one's own self-interest. Hence, individuals must possess the ability to use emotions skillfully, as well as exhibit selfishness motives that together allow them to reduce their aversive negative feelings associated with consumer fraud.

### Ability: Emotional Intelligence

Individuals possess a unique ability to process emotional information and integrate that information into decision-making (Mayer, Salovey, and Caruso 2008). Differences in these abilities are captured by consumer EI, defined as a person's ability to skillfully use emotional information to achieve the desired consumer outcome (Kidwell et al. 2008). EI encompasses a consumer's ability to perceive and interpret emotions, understand how decisions and purchases make them feel, and regulate their emotions in consumption settings (Kidwell et al. 2008). Heightened EI leads consumers to reason more about their emotions in several decision contexts. For example, consumers high in EI are more likely to carefully weigh the affective cues present in a consumption decision to make objectively superior product choices (Kidwell et al. 2008). Individuals whose EI was heightened in a training program were found to more explicitly process their emotions and make healthier food choices (Kidwell, Hasford, and Hardesty 2015). EI also leads individuals to reason about their implicit associations and control their explicit evaluations toward learned stimuli (Hasford, Kidwell, and Hardesty 2018).

We extend this research by suggesting that despite considerable research showing the positive effects of EI on decision-making and behavior across a variety of domains, EI can also exhibit negative or unfavorable outcomes. We suggest that this is due to the importance of understanding the underlying motives that provide the valence of these outcomes. EI in itself is neutral and merely involves the proficient ability to perceive, use, understand and manage one's emotions. The degree to which one is selfish or other-focused associated with EI provides the valence of the outcome. These motives allow consumers to process their emotions uniquely relative to what they are trying to accomplish. If their motives are selfish, they will employ their emotions toward overcoming the aversive negative feelings associated with committing fraud.

Thus, we propose that consumers must possess high levels of both EI and selfishness to be more likely to commit fraud. Selfishness is a required mental state for fraud to occur. Without selfishness, consumers will lack the motivation to engage in various forms of fraud. However, selfishness alone cannot assist consumers in understanding and controlling feelings of embarrassment that deter fraud. Thus, high levels of EI are also necessary to manage feelings of embarrassment associated with less severe forms of consumer fraud, such as petty theft. As one's ability to recognize, understand, and manage emotions increases, their

emotional skills allow one to suppress embarrassment toward various fraudulent acts and achieve their selfish goals. Therefore, we predict that when selfishness is high (vs. low), increases in EI will enhance the incidence of consumer fraud. This effect will also be driven by a reduction in felt embarrassment toward the decision to commit fraud, which occurs from consumers possessing the ability and motivation to suppress the embarrassment associated with violating social norms. Together, we formally predict:

**H1:** The interaction between EI and selfishness predicts the incidence of consumer fraud, such that fraud is more likely to occur at higher levels of both EI and selfishness.

**H2:** The interaction between EI and selfishness onto consumer fraud is mediated by felt embarrassment.

### Plan of Studies

To examine how EI and selfishness interact to predict consumer fraud, seven studies were conducted. In study 1, we used a contest to examine whether the interaction of selfishness and EI leads consumers to lie for a chance to win a gift card. Study 2 assesses actual fraud where pens are stolen. Study 3 uses galvanic skin response to identify decreases in arousal associated with embarrassment and provide initial support for our full conceptual model, while study 4 directly measures felt embarrassment and rules out several alternative explanations. Then, studies 5a–5c experimentally manipulate embarrassment, guilt, and shame to further support our conceptual model and rule out guilt and shame as alternative explanations for the effect.

## STUDY 1

Study 1 was designed to provide an initial demonstration of our predictions regarding selfishness and EI. In this study, we examined consumer lying behavior by manipulating selfishness and measuring EI. Specifically, we created a consumer contest where the chance to receive a gift was conditional on lying to gain entry.

### Method

One-hundred seventy-nine undergraduates were randomly assigned to a single-factor (selfishness: high or low) between-subjects design. To begin, participants completed a priming task. In the high selfishness condition, participants were asked to recall a recent time when they were selfish and write about how they focused on themselves and their own needs. In the low selfishness condition, participants were asked to recall a recent time when they helped someone else and write about how they focused on the needs of others and how it helped that person(s). Complete study instructions are available in the appendix.



Before the collection of study 1, a pretest with 101 individuals was conducted on Amazon MTurk. Participants were randomly assigned to complete either the high selfishness or low selfishness writing task. Participants then completed four items measuring their selfishness. The items ("After completing the writing task, I feel. . .," "That I am selfish," "That I am primarily concerned with my own needs," "That my needs are more important than the needs of others," and "Sometimes you can only worry about yourself") were assessed on 7-point scales (strongly disagree-strongly agree;  $\alpha = .86$ ). A *t*-test revealed that participants completing the high selfishness writing task had significantly higher selfishness ( $M = 4.82$ ,  $SD = 1.17$ ) relative to participants who completed the low selfishness writing task ( $M = 3.26$ ,  $SD = 1.59$ ,  $t(99) = 5.60$ ,  $p < .001$ ). This finding suggests our writing task is effective at manipulating selfishness.

After completing the writing task, participants were instructed that they would complete a contest for a chance to receive a \$25 Amazon gift card. The contest was modeled after research that has examined lying behavior (Bryan, Adams, and Monin 2013; Peer, Acquisti, and Shalvi 2014) and involved a coin flip task. Participants were instructed to flip a virtual coin 10 times and if they correctly guessed at least five flips, they would be entered in the drawing for the gift card. However, the survey was programmed such that regardless of whether participants chose heads or tails for each round, participants only guessed correctly on rounds 2, 5, 6, and 9. Thus, all participants only correctly guessed four flips, which made them ineligible to be entered into the drawing. However, participants were also instructed to track the number of flips they guessed correctly, as the survey software was unable to do so. After completing the 10 flips, participants were asked to indicate whether they guessed five or more flips correctly to be entered in the drawing. This served as our dependent measure of lying.

After the coin flip task, participants completed the Consumer Emotional Intelligence Scale (CEIS; Kidwell et al. 2008). The CEIS is an ability-based measure of EI that has been shown to be a reliable and valid measure of a consumer's emotional skills. We preferred the CEIS to domain-general measures of ability-based EI (MSCEIT; Mayer et al. 2003) as the CEIS has been shown to have greater predictive validity in multiple consumer domains relative to other domain-general, ability-based measures of EI (see Kidwell et al. 2008). Furthermore, the CEIS has been used in studies of how consumers process their initial affective reactions to a stimulus (Hasford et al. 2018; Kidwell et al. 2015), which is directly relevant to our theoretical framework of consumer fraud. Each item of the CEIS is scored on a percentage of correctness scale based on expert consensus (items and scoring available at [www.ceis-research.com](http://www.ceis-research.com)). The split-half reliability of the CEIS was .63. Scores on the EI measure were standardized

( $M = 0$ ,  $SD = 1$ ) for ease of interpretability. To conclude, participants provided their age and gender. After the conclusion of the study, one participant who reported guessing the required number of flips was randomly chosen and sent a digital code for the Amazon gift card.

## Results

We first analyzed whether our selfishness manipulation impacted participant EI scores. Standardized EI scores were lower in the high selfishness condition ( $M = -0.19$ ) than the low selfishness condition ( $M = 0.19$ ,  $t(177) = 2.67$ ,  $p = .009$ ). Given this effect, we test for potential multicollinearity in all subsequent analyses.

Logistic regression was conducted with EI, selfishness (1 = high, -1 = low), and their interaction predicting whether participants lied for a chance to win the gift card (1 = lied, 0 = did not lie). Multicollinearity was shown to not be an issue ( $VIFs < 1.05$ ). The main effects of selfishness (log odds = .01,  $p = .97$ ) and EI (log odds = .17,  $p = .40$ ) were nonsignificant. However, as theorized the interaction of EI and selfishness was significant (log odds = .53,  $p = .01$ ). The effect size associated with the EI by selfishness interaction was  $f^2 = .07$  (see Dawson 2014), which is characterized as a small effect.

To analyze the EI  $\times$  selfishness interaction, we used PROCESS model 1 (Hayes 2017). Results are displayed in figure 1. In the low selfishness condition there is a nonsignificant relationship between EI and fraud (log odds =  $-.36$ ,  $z = -1.40$ ,  $p = .16$ ). In the high selfishness condition, there is a significant positive relationship between EI and fraud (log odds = .70,  $z = 2.17$ ,  $p = .03$ ). These results support hypothesis 1.

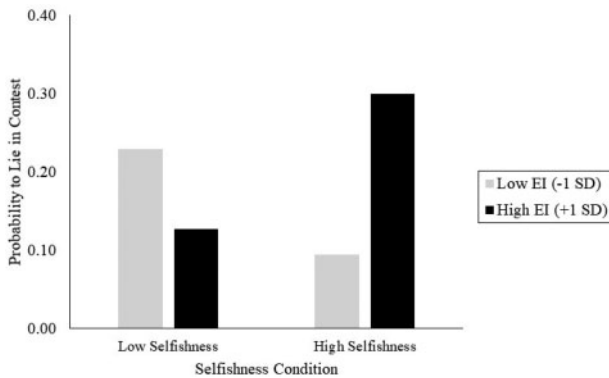
Additionally, we performed a *post-hoc* power analysis using G\*Power (Faul et al. 2007) to ensure adequate statistical power in our study. Based on our observed interaction effect and sample size, the statistical power of .93 was observed.

## Discussion

Study 1 provides initial support that the selfishness  $\times$  EI interaction impacted fraudulent behavior. Using a task where participants had to lie for a chance to win a gift card, consumers high in EI were more likely to lie when they were more motivated to act selfishly. Next, in study 2, we replicate the effect of EI and selfishness by assessing actual consumer fraud.

Additionally, it is important to note the causal effect that our selfishness manipulation had on EI scores. One potential explanation is that by increasing selfishness, participants put forth less effort in completing the remainder of the survey since the survey provided minimal benefits to the participant, which ultimately reduced their EI scores later in the session. However, the VIFs observed here

**FIGURE 1**  
STUDY 1 RESULTS



suggest that EI and selfishness scores were not related in such a way that impacted our observed effects. To ensure that any causal effects of our selfishness manipulation on EI or the correlation of EI and selfishness did not impact our findings, we examine the VIFs in all subsequent studies to ensure no multicollinearity effects are present.

## STUDY 2

While study 1 provides initial support for our predictions, study 2 was designed to demonstrate implications by examining consumer theft of an actual product. We again expect an interaction between selfishness and EI in predicting fraud.

### Method

Three hundred seventy-six undergraduates were recruited to participate in this study for course credit. At the end of a lab session featuring several unrelated studies, participants completed the CEIS to measure EI (split-half reliability = .67). Participants then completed a six-item measure ( $\alpha = .73$ ) of selfishness adapted from Shang, Reed, and Croson (2008). Scores on the EI and selfishness measures were standardized ( $M = 0$ ,  $SD = 1$ ) for ease of interpretability.

Then, participants were told that they would receive a gift for completing the lab session. The gift they would receive would be based on a dice-rolling game. Participants were instructed to roll a dice on the computer and if the number rolled was one through five, they would receive a basic pen valued at \$.19. However, if they rolled a six, they would receive a deluxe embroidered pen with the University's logo valued at \$2.49. After reading the instructions, participants then rolled the dice. However, the survey was programmed so participants could only roll a 1,

2, 3, 4, or 5. After rolling the dice, participants were informed that they won the basic pen and were asked to check out with the lab assistant. Upon checking out, participants were told to pick up the pen they won in a separate retail area of the lab. When exiting the lab, two boxes of pens (the basic and the deluxe) were available. Unbeknownst to participants, the lab assistant waited until each participant left and tracked whether each participant took the basic pen or stole the deluxe pen. After noting which pen was taken, the lab assistant replaced it so both boxes had an equal number of pens for the next participant. Forty-nine participants (13%) stole the deluxe pen.

### Results

A logistic regression was conducted with EI, selfishness, and their interaction predicting whether participants stole the deluxe pen (1 = yes, 0 = no). EI and selfishness were negatively correlated ( $r = -.10$ ,  $p = .046$ ), but multicollinearity was not an issue (VIFs < 1.03). The main effect of selfishness was significant (log odds = .36,  $Z = 2.25$ ,  $p = .024$ ), while the main effect of EI was not (log odds = .07,  $Z = 0.41$ ,  $p = .68$ ). These effects were qualified by the significant interaction of selfishness and EI (log odds = .40,  $Z = 2.35$ ,  $p = .019$ ). The effect size associated with the interaction was  $f^2 = .03$ , which is characterized as a small effect (Dawson 2014).

To analyze the EI  $\times$  selfishness interaction displayed in figure 2, we conducted a floodlight analysis (Spiller et al. 2013) using PROCESS model 1 (Hayes 2017). Johnson–Neyman points (Johnson and Neyman 1936) of 0.80 and  $-2.41$  were observed. For participants with a selfishness score of 0.80 SD above the mean and higher (18.9% of participants), those with high EI were significantly more likely to commit fraud relative to those with low EI. Participants with a selfishness score of  $-2.41$  SD below the mean and less (1.1% of participants) were also more likely to commit fraud in the low (vs. high) EI condition.

Finally, we performed a *post-hoc* power analysis using G\*Power (Faul et al. 2007) to ensure adequate statistical power in our study. Based on our observed interaction effect and sample size, the statistical power of .89 was observed.

### Discussion

Study 2 generalizes our predictions to the theft of consumer goods. Individuals with moderate or high levels of EI and greater levels of selfishness were more likely to steal a deluxe pen compared to those with lower selfishness. Next, we begin testing our full conceptual model by exploring differences in physiological arousal across levels of EI and selfishness.

FIGURE 2

STUDY 2 RESULTS



### STUDY 3

Study 3 extends the results of the first two studies by considering how embarrassment may explain the link between selfishness and EI on consumer fraud. We propose that selfish, high EI consumers will process the negative emotions associated with fraud differently than other consumers. Because these consumers are driven to gain benefits for the self and possess the ability to suppress emotions associated with the fraud decision, felt embarrassment toward the prospect of committing fraud should be reduced. This reduction in felt embarrassment is predicted to mediate the relationship between EI, selfishness, and fraud (hypothesis 2).

Galvanic skin response (GSR) was used here to approximate embarrassment through skin conductance responses (SCRs). SCRs have been found to be an objective, valid, and reliable measure of physiological arousal (Boucsein 2012), such as feeling embarrassed. As such, researchers are being asked to include more autonomic, behavioral operationalizations into their research, such as SCR which can operationalize emotional arousal apart from changes in emotional valence or cognitions (Keltner and Buswell 1997; Morales, Amir, and Lee 2017).

While SCRs serve as an excellent proxy for emotional arousal, they are especially able to identify changes in embarrassment specifically. Embarrassment is more likely to be sensed through SCR because it is a faster, quicker, more automatic response to stimuli than guilt or shame (Tangney et al. 2007). Such autonomic measures have also been able to identify responses of embarrassment and parse those out from fear, sadness, and amusement (Keltner and Buswell 1997; Shearn et al. 1990). As such SCRs are an appropriate and key measure of embarrassment (Keltner and Buswell 1997; Müller-Pinzler et al. 2012).

### Method

In exchange for partial course credit, 210 undergraduate students ( $M_{\text{age}} = 20.4$  years old, 62.9% female)

participated in study 3 in a behavioral lab. To begin, participants were connected to a Shimmer3 wireless GSR device where all data were processed through the iMotions biometric research platform. The device captured skin conductance responses (SCRs) using two Ag/AgCl surface electrodes attached to the volar surface of participants' fore and middle fingers. Data were collected for the duration of the study to prevent interruption and data was collected at 52 Hz. Once the device was ensured to work properly, participants completed a writing task. The task was used to randomly assign participants to a single (selfishness: high or low) between-subjects factor from study 1. Next, participants were asked to imagine shopping for shoes in their local mall. As they are deciding whether to buy, they notice that the price tag peels off easily and reveals an older but lower price on the shoes. They were asked to indicate how likely they were to buy the shoes with the lower price tag (see appendix for the scenario) on a 7-point scale (1 = very unlikely, 7 = very likely). Then, they completed the CEIS to measure EI (split-half reliability = .76). Scores on the EI measure were standardized ( $M = 0$ ,  $SD = 1$ ) for ease of interpretability. Finally, participants completed the manipulation check of selfishness from study 1 and provided their age and gender.

### Results

First, the selfishness manipulation was examined with the four-item manipulation check. A  $t$ -test revealed that participants reported greater selfishness in the high selfishness condition ( $n = 105$ ,  $M = 4.10$ ,  $SD = .95$ ) relative to participants in the low selfishness condition ( $n = 105$ ,  $M = 2.61$ ,  $SD = 1.08$ ,  $t(208) = 10.56$ ,  $p < .001$ ).

The interaction between selfishness and EI on the propensity to commit fraud was examined through regression. Multicollinearity was shown to not be an issue ( $VIFs < 1.07$ ). Both main effects of selfishness ( $b = .03$ ,  $t = 0.19$ ,  $p = .85$ ) and EI ( $b = .03$ ,  $t = 0.17$ ,  $p = .87$ ) were nonsignificant. However, the interaction of selfishness and EI was significant ( $b = .36$ ,  $t = 2.34$ ,  $p = .02$ ). The effect size associated with the interaction was  $f^2 = .03$ , which is characterized as a small effect (Dawson 2014). Results are displayed in figure 3. In the low selfishness condition there is a nonsignificant relationship between EI and fraud ( $b = -.33$ ,  $z = -1.41$ ,  $p = .16$ ). In the high selfishness condition, there is a significant positive relationship between EI and fraud ( $b = .38$ ,  $z = 1.96$ ,  $p = .05$ ). These findings support hypothesis 1.

Recall that embarrassment is predicted to mediate the relationship between the interaction of EI and selfishness onto consumer fraud. Here, embarrassment was approximated through GSR. SCRs were collected beginning when participants were exposed to the consumer fraud scenario and ended five seconds after they completed the task to account for any potential delays from stimulus assessment to

physiological reaction. The GSR raw data were filtered to reduce noise (Ohme et al. 2010). Next, peak amplitude was calculated for each participant, in micro Siemens, to determine how their level of physiological arousal changed when evaluating the fraud scenario (Fox et al. 2018; Langner, Schmidt, and Fischer 2015).

PROCESS (Hayes 2017) Model 8 was used to estimate the predicted conditional process model where the GSR amplitude served as the mediator in our model. Here, the interaction of selfishness and EI significantly impacted physiological arousal ( $b = -.07$ ,  $t = -2.28$ ,  $p = .02$ ). Both the main effect of EI ( $b = -.03$ ,  $t = -0.94$ ,  $p = .35$ ) and selfishness ( $b = .01$ ,  $t = 0.29$ ,  $p = .77$ ) were nonsignificant. Simple slopes analysis reveals that EI was negatively related to physiological arousal in the high selfishness condition ( $b = -.10$ ,  $t = -2.52$ ,  $p = .01$ ) and unrelated in the low selfishness condition ( $b = .04$ ,  $t = 0.87$ ,  $p = .39$ ). Thus, when participants were high in selfishness, increases in EI allowed them to mitigate their physiological arousal when considering whether to commit fraud.

When included in the model predicting fraud intentions, physiological arousal was significant ( $b = -.75$ ,  $t = -2.25$ ,  $p = .03$ ). This suggests that an increase in physiological arousal reduces the likelihood of committing fraud. The interaction of EI and selfishness was significant ( $b = .30$ ,  $t = 1.98$ ,  $p = .05$ ), while the main effects of EI ( $b = .00$ ,  $t = 0.02$ ,  $p = .98$ ) and selfishness ( $b = .04$ ,  $t = 0.24$ ,  $p = .81$ ) were not.

The index of moderated mediation was also significant (Effect = .1076, 95% CI: [.0052, .2384]), suggesting support for the conditional process model. An indirect effect through physiological arousal was observed for those in the high selfishness condition (Effect = .0759, 95% CI: [.0010, .1683]). However, the indirect effect of physiological arousal was nonsignificant for those in the low selfishness condition (Effect = -.0316, 95% CI: [-.1161, .0221]). Together, these results suggest that physiological arousal mediates the relationship between selfishness, EI, and fraud intentions, in support of hypothesis 2 (see figure 4).

Finally, we performed a *post-hoc* power analysis using G\*Power (Faul et al. 2007). Based on our observed interaction effect and sample size, the statistical power of .94 was observed.

## Discussion

Study 3 provides support for our conceptual model of selfishness, EI, and consumer fraud. Specifically, we demonstrated that selfish, high EI consumers experience less physiological arousal toward the decision to switch price tags, ultimately enhancing fraud behavior. Embarrassment was approximated through physiological arousal measured with GSR. Whereas study 3 does not explicitly pinpoint the driving role of embarrassment, study 4 measures felt

embarrassment as well as several alternative explanations, possibly present in study 3, to provide further support for the mechanism underlying these effects.

## STUDY 4

In study 4, we directly measured embarrassment by self-report to provide additional converging evidence of our conceptual model. Furthermore, several alternative explanations related to guilt, shame, anxiety, threat, risk perceptions, and emotion reappraisal are explored.

## Method

Three-hundred thirteen undergraduates ( $M_{\text{age}} = 20.3$  years old, 54.6% female) were randomly assigned to a single-factor (selfishness: high or low) between-subjects design. Participants began by completing the writing task to prime selfishness. Then, participants completed an insurance fraud scenario. Participants read a scenario in which they were told to imagine parking in a crowded lot every day (see appendix). Participants read that their car had several scratches from other cars that park nearby. Participants were then told they had an accident on their way home from work. During the insurance claim process, the representative from the insurance company asked whether the scratches were part of the accident. Participants could then respond by choosing either “Yes, the scratches were part of the accident” or “No, the scratches were not part of the accident.”

After the insurance fraud scenario, participants completed several measures of various discrete emotions. Focal to our conceptual model, participants completed four items measuring embarrassment toward the fraud decision ( $\alpha = .93$ ) on seven-point scales (strongly disagree-strongly agree) which are available in the appendix. Additionally, several potential alternative explanations to our conceptual model were tested in study 4. We measured guilt and shame as these emotions are suggested to form the triad of immoral behavior (Tangney et al. 2007). Guilt was measured with three items ( $\alpha = .90$ ) and shame was measured with two items ( $r = .85$ ) from Han, Duhachek, and Agrawal (2014). We also measured anxiety toward the decision, as feelings of anxiety could inhibit a consumer from committing fraud. Anxiety was measured with four items ( $\alpha = .95$ ) from Passyn and Sujan (2006) and Lee and Andrade (2015). Measures of perceived threat and risk perceptions were also collected, as perceptions of the danger associated with fraudulent behavior impact the incidence of consumer fraud (Cole 1989). Perceived threat ( $\alpha = .85$ ) and risk perceptions ( $\alpha = .85$ ) were individually assessed with three items each.

We also explored the potential role of emotion reappraisal within our conceptual framework. Emotional reappraisal is defined as the degree to which an individual



FIGURE 3

## STUDY 3 RESULTS

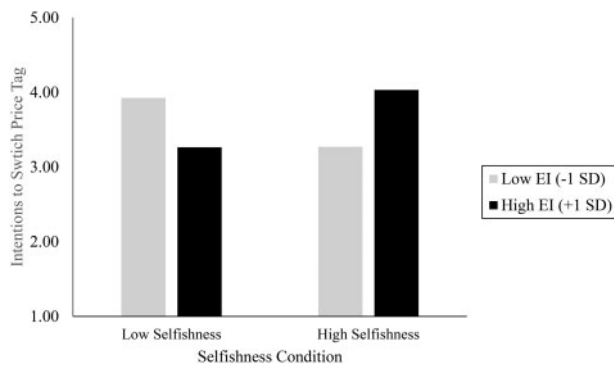
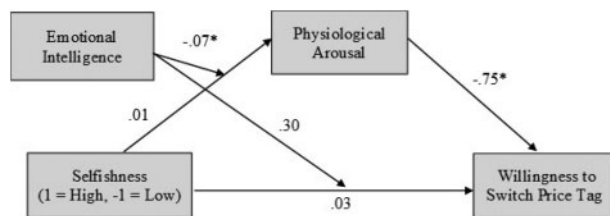


FIGURE 4

## STUDY 3 MODERATED MEDIATION ANALYSIS RESULTS (PROCESS MODEL 8)



NOTE.— All coefficients reported are unstandardized effects. \* $p < .01$

reconsiders their feelings in a situation to experience greater positive emotions and mitigate negative affect (Gross and John 2003). In the context of fraud, consumers could have reappraised their initial negative emotional reactions and instead focused on the positive emotional outcomes associated with committing a fraudulent act. Thus, emotional reappraisal was measured with six items ( $\alpha = .94$ ) adapted from Gross and John (2003). All measures are available in the appendix.

Next, participants completed the CEIS to measure EI (split-half reliability = .64). EI scores were standardized ( $M = 0$ ,  $SD = 1$ ) for ease of interpretability. To conclude, participants completed the selfishness manipulation check from previous studies and age and gender items.

## Results

To begin, we analyzed our manipulation of selfishness. A  $t$ -test revealed that participants reported greater selfishness in the high selfishness condition ( $M = 4.29$ ,  $SD =$

1.02) relative to participants in the low selfishness condition ( $M = 3.36$ ,  $SD = 1.10$ ,  $t(311) = 7.84$ ,  $p < .001$ ).

A logistic regression was conducted with EI, selfishness, and their interaction predicting whether participants intended to commit insurance fraud (1 = yes, 0 = no). Multicollinearity was shown to not be an issue (VIFs < 1.03). The main effect of selfishness was significant (log odds = .28,  $p = .035$ ), while the main effect of EI was not (log odds = .06,  $p = .64$ ). These effects were qualified by a significant interaction of selfishness and EI (log odds = .37,  $p = .005$ ). The effect size associated with the EI by selfishness interaction was  $f^2 = .04$ , which is characterized as a small effect (Dawson 2014). Results are displayed in figure 5. In the low selfishness condition there is a marginally significant relationship between EI and fraud (log odds =  $-.31$ ,  $z = -1.76$ ,  $p = .08$ ). In the high selfishness condition, there is a significant positive relationship between EI and fraud (log odds = .43,  $z = 2.19$ ,  $p = .03$ ). These findings support hypothesis 1.

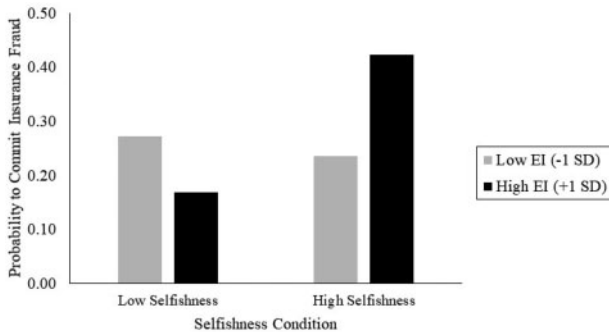
Then, we examined our full conceptual model through embarrassment using PROCESS Model 8 (Hayes 2017). First, we examine whether the selfishness  $\times$  EI interaction predicted differences in embarrassment toward the decision to commit fraud. The main effects of selfishness ( $a = -.08$ ,  $t = -1.14$ ,  $p = .25$ ) and EI ( $a = -.03$ ,  $t = -0.48$ ,  $p = .63$ ) were nonsignificant. However, a significant interaction of EI and selfishness was observed ( $a = -.19$ ,  $t = -2.64$ ,  $p = .008$ ). For participants in the high selfishness condition, increases in EI were negatively related to embarrassment ( $a = -.22$ ,  $t = -2.07$ ,  $p = .04$ ). This finding suggests that participants in the high selfishness condition feel less embarrassment as EI increases, consistent with our theoretical framework. For participants in the low selfishness condition, increases in EI were marginally significant and positively related to embarrassment ( $a = .15$ ,  $t = 1.66$ ,  $p = .10$ ).

In our model, the interaction of EI and selfishness predicted embarrassment, which subsequently predicted intentions to commit fraud. Results are displayed in figure 6. The index of moderated mediation was significant (Effect = .4095, 95% CI [.1322, .7577]). Furthermore, the main effect of selfishness ( $\beta = .29$ ,  $t = 1.87$ ,  $p = .06$ ) and the selfishness  $\times$  EI interaction ( $\beta = .30$ ,  $t = 1.91$ ,  $p = .056$ ) became nonsignificant in predicting fraud intentions when embarrassment was included in our model. An indirect effect through embarrassment was observed for the high selfishness condition (Effect = .2422, 95% CI: [.0305, .4735]) and for the low selfishness condition (Effect =  $-.1673$ , 95% CI:  $[-.3616, -.0178]$ ). Together, these results suggest that feelings of embarrassment mediate our observed effects, in support of hypothesis 2.

Next, we examined whether guilt, shame, anxiety, perceived threat, risk perceptions, or emotion reappraisal provided an alternative explanation to our results. We ran parallel mediation with embarrassment and each

FIGURE 5

## STUDY 4 RESULTS



alternative explanation in six separate models. These models were conducted separately because of the high intercorrelations between the potential mechanisms and the sheer number of alternatives. The index of moderated mediation was nonsignificant for models including shame (.0227, 95% CI  $-.0204, .1003$ ), anxiety (.0266, 95% CI  $-.0209, .1127$ ), threat (.0543, 95% CI  $-.0089, .1472$ ), risk perceptions (.0492, 95% CI  $-.0282, .1530$ ), and emotion reappraisal ( $-.0011$ , 95% CI  $-.0570, .0661$ ). However, the index of moderated mediation for guilt was significant (.1291, 95% CI  $.0121, .2847$ ). The guilt results suggest that at low selfishness, there is an indirect effect through guilt ( $-.1870$ , 95% CI  $-.4095, -.0399$ ). But at high selfishness, the indirect effect through guilt is nonsignificant (.0713, 90% CI  $-.0933, .2469$ ), even considering a 90% confidence interval. These results are counter to both our theorizing and our embarrassing results.

Consistent with our theorizing, the results suggest that at low selfishness, there is a marginally significant indirect effect through embarrassment ( $-.0757$ , 90% CI  $-.1785, -.0022$ ). Moreover, at high selfishness, the indirect effect through embarrassment is significant (.1096, 95% CI  $.0020, .2557$ ). Thus, none of our alternative explanation variables can explain why selfish, high EI consumers are more likely to commit fraud more effectively than embarrassment.

Finally, we performed a *post-hoc* power analysis using G\*Power (Faul et al. 2007). Based on our observed interaction effect and sample size, the statistical power of .88 was observed.

## Discussion

Study 4 provides additional support for our conceptual model of EI, selfishness, and consumer fraud. Where study 3 used a proxy for embarrassment, study 4 specifically

measures embarrassment to support our conceptual framework. Once again, selfish, high EI consumers experience less embarrassment toward the decision to commit insurance fraud, ultimately enhancing fraud behavior. However, given the shortcomings associated with measuring embarrassment, guilt, and shame in this study, as well as the high intercorrelations between these constructs, studies 5a–5c are conducted to experimentally manipulate embarrassment (STUDY 5a), guilt (study 5b), and shame (study 5c) to provide further support for our conceptual model. We use these process-by-moderation tests (Spencer, Zanna, and Fong 2005) to further support our conceptual model, which prior research has used in the domain of discrete emotions to understand their influence on behavior (Schnall et al. 2008).

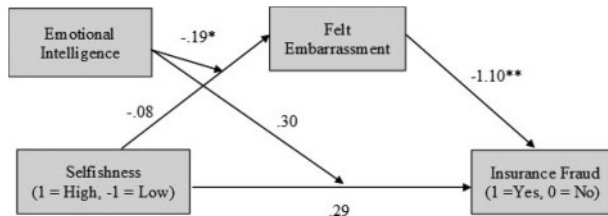
## STUDY 5A

To provide additional support that felt embarrassment underlies our observed effects, study 5a experimentally manipulates embarrassment before a fraud scenario. Because embarrassment serves as a learned association that guides moral decision-making (Tangney et al. 2007), we predict that differences in felt embarrassment before a fraud decision will moderate the selfishness  $\times$  EI interaction onto fraud behavior. Specifically, when felt embarrassment from another domain is low, the selfishness  $\times$  EI effect observed in previous studies will again replicate here. However, when felt embarrassment from another domain is high, we propose those feelings will carry over and influence how the decision to commit fraud is evaluated (following an affect-as-information framework; Pham 1998). Because feelings of embarrassment will be salient, we propose that even those high in EI and selfishness will use that cue to guide their behavior and the EI  $\times$  selfishness interaction will no longer predict the incidence of fraud.

## Method

In studies 5a–c three independent variables are examined by manipulating the moral emotion of interest and measuring EI and selfishness. In study 5a, 698 undergraduates ( $M_{\text{age}} = 20.9$  years old, 57.6% female) were randomly assigned to a single-factor (emotion: embarrassment or control) between-subjects design. Participants began by completing a writing task designed to manipulate embarrassment. In the embarrassment condition, participants were asked to write about a time recently when they felt embarrassed. In doing so, participants were asked to provide enough detail that someone unfamiliar with what happened could understand the situation. In the control condition, participants were asked to write about a typical day. Participants in this condition were also asked to provide enough detail that someone unfamiliar with their

FIGURE 6

STUDY 4 MODERATED MEDIATION ANALYSIS RESULTS  
(PROCESS MODEL 8)

Note: All coefficients reported are unstandardized effects. \* $p < .01$ , \*\* $p < .001$ .

typical day could understand their situation. After the writing scenario, participants completed a four-item embarrassment manipulation check ( $\alpha = .94$ ) on a 5-point scale (strongly disagree-strongly agree). The complete writing scenarios and manipulation checks are available in the appendix.

Next, participants completed a fraud scenario. They read that they purchased a product from an online retailer. They were told to imagine that after receiving the product, they no longer wanted it. However, when they went to return the product, the retailer has a policy that they only accept returns if the product was damaged during shipping. Then, participants were asked to indicate whether they would commit return fraud and claim the product was damaged during shipping (1 = yes, 0 = no). The full scenario is available in the appendix.

After the fraud scenario, participants completed the study 2 selfishness ( $\alpha = .78$ ) and EI (split-half reliability = .66) measures. Scores on both measures were standardized ( $M = 0$ ,  $SD = 1$ ) for ease of interpretability. To conclude, participants provided their age and gender.

## Results

To begin, we analyzed our manipulation of embarrassment. A  $t$ -test revealed that participants reported greater felt embarrassment in the embarrassment condition ( $M = 4.13$ ,  $SD = .97$ ) relative to those in the control condition ( $M = 2.02$ ,  $SD = 1.00$ ,  $t(696) = 28.17$ ,  $p < .001$ ).

To analyze the interaction of selfishness, EI, and embarrassment (0 = control, 1 = embarrassment) in predicting fraud intentions, we used PROCESS model 3 (Hayes 2017) as this model is specifically designed to interpret three-way interactions in regression analysis. EI and selfishness were negatively correlated ( $r = -.21$ ,  $p < .001$ ), but multicollinearity was shown to not be an issue (VIFs  $< 2.78$ ). All effects are provided in table 1. Importantly, all observed effects were qualified by the significant three-way

interaction of selfishness, EI, and embarrassment (log odds =  $-.4235$ ,  $Z = -2.36$ ,  $p = .02$ ).

The significant three-way interaction was interpreted within the PROCESS macro in two ways and is displayed in figure 7. Tests of the conditional interaction effects revealed that in the control condition, a significant interaction of selfishness and EI was observed (log odds =  $.3172$ ,  $\chi^2 = 4.87$ ,  $p = .027$ ). In the control condition, floodlight analyses revealed Johnson–Neyman points (Johnson and Neyman 1936) of 3.37 and  $-.57$ . For participants with a selfishness score of 3.37 SD above the mean and higher (.9% of participants), those with high EI were significantly more likely to commit fraud relative to those with low EI. Participants with a selfishness score of  $-.57$  SD below the mean and less (27.1% of participants) were also more likely to commit fraud in the low (vs. high) EI condition. These results support hypothesis 1. However, in the embarrassment condition, the interaction of selfishness and EI was nonsignificant (log odds =  $-.1063$ ,  $\chi^2 = .97$ ,  $p = .33$ ). These results support our conceptual model of EI, selfishness, and embarrassment in predicting fraud.

Finally, we performed a *post-hoc* power analysis using G\*Power (Faul et al. 2007) to ensure adequate statistical power in our study. Based on our observed interaction effect and sample size, the statistical power of .99 was observed.

## Discussion

Study 5a provides additional support for our conceptual model through the process by moderation (Spencer et al. 2005). In a control condition, results replicated previous studies such that heightened selfishness and EI led to enhanced fraud intentions. However, when embarrassment was salient, the selfishness  $\times$  EI interaction no longer predicted fraud intentions. This effect occurs because the selfishness  $\times$  EI interaction that normally mitigates felt embarrassment no longer does so when embarrassment is salient in the decision environment. Next, we manipulate guilt (study 5b) and shame (study 5c) to further rule these out as alternative explanations for the interaction effect between selfishness and EI onto consumer fraud.

## STUDIES 5B AND 5C

While study 5a supports embarrassment as a mechanism driving our observed effects, it is possible that shame and/or guilt are also driving these effects. Therefore, studies 5b and 5c experimentally manipulate guilt (5B) and shame (5C) separately before a fraud scenario, while also still measuring EI and selfishness. Recall that in study 5a the interaction between selfishness and EI replicated in the control condition but was attenuated in the embarrassment condition. If either shame or guilt is also driving our

**TABLE 1**  
STUDY 5A RESULTS

Source	Log odds	Std. error	Z	Sig.
Selfishness (A)	.5839	.1259	4.11	<.001
Emotional intelligence (B)	-.1557	.1299	-1.20	.23
Embarrassment (C)	-.2094	.1799	-1.16	.24
A*B	.3172	.1437	2.21	.027
A*C	-.3402	.1914	-1.78	.075
B*C	.0257	.1834	0.14	.89
A*B*C	-.4235	.1798	-2.36	.019

effects, we would expect a similar result here. However, if neither is at play, we would expect no interaction.

## Method

To achieve the power of .80 and using the observed effect size from study 5a, the minimum sample size for studies 5b and 5c is 398. As such, 528 Mturk workers ( $M_{\text{age}} = 41.9$  years old, 56.3% female) participated in study 5b and 542 Mturk workers participated in study 5c ( $M_{\text{age}} = 40.0$  years old, 60.5% female), which exceeds our standard of power. In each study, participants were randomly assigned to a single factor between-subjects design (5B: emotion: guilt or control; 5C: emotion: shame or control). The remaining procedure was replicated from study 5a where participants first completed a writing task manipulating their respective emotions. Those in the guilt condition in study 5b were asked to write about a time when they felt guilt. To help contrast the similar discrete emotions across studies, those in the shame condition (study

5c) were provided with information about what shame specifically involves and were asked to describe a time they felt shame. The manipulations are provided in the appendix. The control condition in each study was the same as study 5a where participants were asked to write about a typical day.

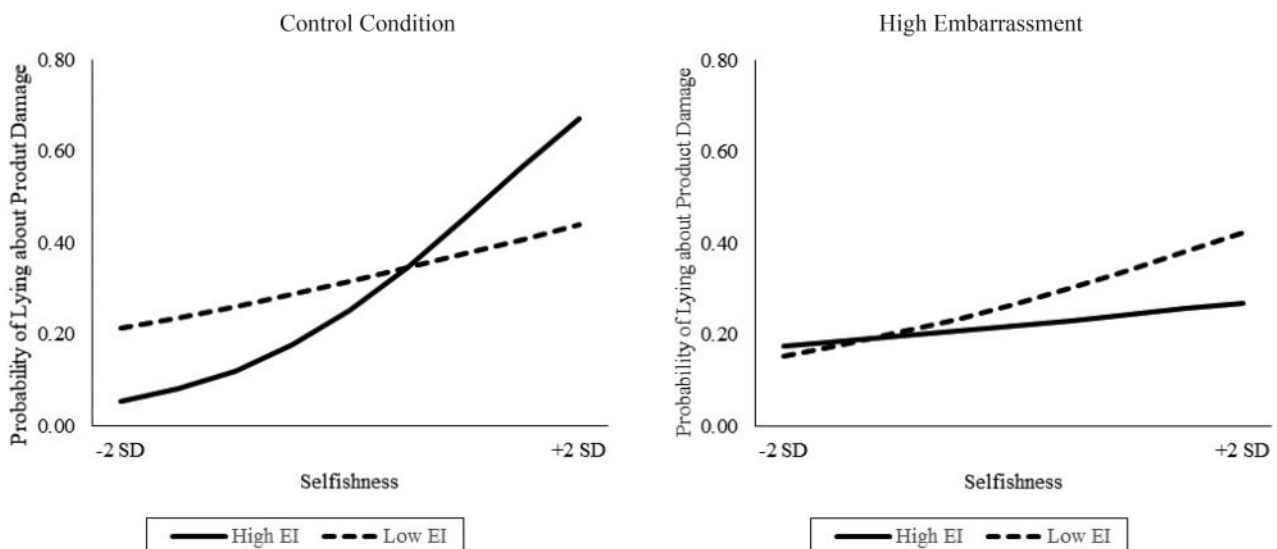
After the writing scenario, participants completed a manipulation check for their respective conditions. Those in study 5b completed a three-item guilt manipulation check ( $\alpha = .95$ ) on a 5-point scale (strongly disagree-strongly agree). Those in study 5c completed a four-item shame manipulation check ( $\alpha = .95$ ) on a 5-point scale (strongly disagree-strongly agree). These manipulation check items are included in the appendix.

Participants then read the study 5a online retailer fraud scenario, indicating whether they would commit return fraud by falsely claiming an item they purchased was damaged during shipping. Next, participants completed the six-item selfishness measure ( $\alpha_{5B} = .87$ ;  $\alpha_{5C} = .90$ ) and the CEIS (Split-Half Reliability<sub>5B</sub> = .65; Split-Half Reliability<sub>5C</sub> = .74). Scores on the EI and selfishness measures were standardized ( $M = 0$ ,  $SD = 1$ ) for ease of interpretability. Lastly, participants provided their age and gender.

## Results

*Preliminary Findings.* To begin, the manipulation checks were assessed across studies. In study 5b, the guilt manipulation check was successful as those in the high guilt condition reported greater felt guilt ( $M = 3.77$ ,  $SD =$

**FIGURE 7**  
STUDY 5A RESULTS





.93) than those in the low guilt condition ( $M = 1.47$ ,  $SD = .84$ ,  $t(526) = 29.75$ ,  $p < .001$ ). Similarly, in study 5c, the shame manipulation was also effective as those in the high shame condition reported greater felt shame ( $M = 3.78$ ,  $SD = .91$ ) than in the low shame condition ( $M = 1.78$ ,  $SD = 1.17$ ,  $t(540) = 22.01$ ,  $p < .001$ ).

**Study 5b Main Results.** PROCESS model 3 (Hayes 2017) was used to examine the potential effect of selfishness, EI, and emotion (0 = control, 1 = guilt), and their interactions in predicting fraud intentions. The selfishness and EI measures were negatively correlated in study 5b ( $r = -.35$ ,  $p < .001$ ), but multicollinearity was shown to not be an issue ( $VIF_{5B} < 3.62$ ). The results are provided in table 2. Unlike study 5a, the three-way interaction between selfishness, EI, and emotion was nonsignificant (log odds =  $-.2680$ ,  $Z = -1.17$ ,  $p = .24$ ). However, and as predicted, the two-way interaction between EI and selfishness was significant (log odds =  $.4327$ ,  $Z = 2.36$ ,  $p = .02$ ). Floodlight analyses were used to further examine this interaction and revealed Johnson–Neyman points (Johnson and Neyman 1936) of  $-.49$  and  $2.22$ . For participants with a selfishness score of  $2.22$  SD above the mean and higher (1.1% of participants), participants with high levels of EI (+1 SD) were more likely to commit fraud than those with low levels of EI (−1 SD). For those with a selfishness score of  $.49$  SD below the mean and lower (34.5% of participants), those with low levels of EI were more likely to commit fraud than those with high levels of EI. These results replicate the findings from previous studies regardless of whether participants were in the control or guilt conditions, suggesting that guilt does not underlie our effects.

**Study 5c Main Results.** PROCESS Model 3 was also used to examine the effect of selfishness, EI, and emotion (0 = control, 1 = shame) and their interactions on fraud intentions. The selfishness and EI measures were negatively correlated in study 5c ( $r = -.58$ ,  $p < .001$ ), but multicollinearity was shown to not be an issue ( $VIF_{5C} < 3.59$ ). Complete results are provided in table 3. As in study 5b, the three-way interaction between selfishness, EI, and emotion was nonsignificant (log odds =  $-.3231$ ,  $Z = -1.04$ ,  $p = .30$ ). Replicating the results of prior studies, the two-way interaction between EI and selfishness was significant (log odds =  $.6913$ ,  $Z = 2.80$ ,  $p < .01$ ). Floodlight analyses were used to further examine this interaction and revealed Johnson–Neyman points (Johnson and Neyman 1936) of  $-.96$  and  $.76$ . For participants with a selfishness score of  $.76$  SD above the mean and higher (22.0% of participants), participants with high levels of EI (+1 SD) were more likely to commit fraud than those with low levels of EI (−1 SD). For those with a selfishness score of  $.96$  SD below the mean and lower (21.2% of participants), those with low levels of EI were more likely to

commit fraud than those with high levels of EI. Similar to guilt, this interaction was not qualified by shame.

## Discussion

Studies 5b and 5c seek to determine whether guilt and/or shame mediate the effect of EI  $\times$  selfishness on fraud. To test whether guilt and shame serve as mediating mechanisms, we manipulate each through the process by moderation (Spencer et al. 2005). In study 5b the guilt manipulation failed to significantly influence the interaction between selfishness and EI on fraud intentions. Results were similar in study 5c for shame where it had a nonsignificant effect on this interaction. Thus, it appears that neither shame nor guilt plays a role in this interaction. Taken with the results of previous studies, these findings support an embarrassing account in explaining the interaction between selfishness and EI on consumer fraud.

## GENERAL DISCUSSION

The current research extends previous studies of consumer fraud by examining how differences in one's selfishness and the ability to process emotional information impact the incidence of lying, cheating, and stealing. Across seven studies, consumers high in both selfishness and EI were more likely to commit fraud. This effect occurred because selfish, high EI consumers controlled their learned affective responses of embarrassment associated with committing fraud. Furthermore, these effects were generalized beyond hypothetical scenarios and intentions to commit fraud, as high EI, selfish individuals were significantly more likely to steal a product after a lab session. Finally, mixed evidence was also found for low EI, low selfishness consumers committing greater amounts of fraud than low EI, high selfishness consumers. Together, these findings have several implications for theory and public policy.

## Theoretical and Practical Implications

Prior studies of consumer fraud have noted that situational affective responses influence whether consumers engage in various immoral acts, yet research has been limited on the psychological mechanisms that impact how those feelings are processed. Here, we examine how differences in the ability (EI) and motivation (selfishness) to process one's affective reactions impact the incidence of common consumer fraud behavior. We differentiate our findings from previous studies of morality and honesty (Mazar et al. 2008) which center on the cognitive tradeoffs to one's self-image and the rationalization processes individuals engage in when they act immorally. Furthermore, our proposed mediator (embarrassment) is conceptually distinct from other related moral emotions of guilt and shame (Tangney

**TABLE 2**  
STUDY 5B RESULTS

Source	Log odds	Std. error	Z	Sig.
Selfishness (A)	.1540	.1666	0.92	.36
Emotional intelligence (B)	-.3918	.1749	-2.24	.03
Guilt (C)	.1256	.2241	0.56	.58
A*B	.4327	.1832	2.36	.02
A*C	.0880	.2307	0.38	.70
B*C	.4668	.2456	1.90	.06
A*B*C	-.2680	.2287	-1.17	.24

**TABLE 3**  
STUDY 5C RESULTS

Source	Log odds	Std. error	Z	Sig.
Selfishness (A)	.6030	.2213	2.73	<.01
Emotional intelligence (B)	-.3284	.2544	-1.29	.20
Shame (C)	.6958	.2645	2.63	<.01
A*B	.6913	.2467	2.80	<.01
A*C	.0590	.2974	0.20	.84
B*C	.4549	.3287	1.38	.17
A*B*C	-.3231	.3108	1.04	.30

et al. 2007). We propose that because consumer fraud involves less severe moral transgressions where individuals may be sensitive to social norms, embarrassment is a particularly relevant moral emotion to consider. Thus, our research contributes both to the literature on the factors that underlie consumer fraud behavior as well as the emotions that influence immorality.

Our research also extends studies of EI and consumer behavior, as enhanced EI is often suggested to provide various benefits to consumers. Kidwell et al. (2015) show how enhancing EI can lead individuals to make healthier choices by more explicitly processing their emotions associated with food and relying less on heuristic food associations. Other studies have shown that heightened EI enhances various prosocial behaviors, such as recycling and helping others (Robinson et al. 2019; Septianto and Soegianto 2017). However, our research demonstrates that individuals with high levels of EI are also more likely to commit various fraudulent acts. When these individuals are more selfish in addition to their enhanced ability to suppress emotions, they were more likely to lie and steal for personal gain. Thus, our research suggests that EI should not be conceptualized as a prosocial personality variable. Rather, EI should be viewed as an ability that is neutral in valence, the use of which is dependent on a consumer's motives.

Though not a central focus of this article, a pattern was also observed where consumers low in selfishness were sometimes less likely to commit fraud when their EI was higher versus lower. To explore this finding, we conducted a single article meta-analysis using all studies to explore

differences in EI for those low in selfishness. For studies 1, 3, and 4 only data from the low selfishness condition was used as selfishness was manipulated in these studies. For studies 2 and 5a–5c, the regression results were used where EI, selfishness, and their interaction predicted fraud intentions as selfishness was measured. Here, low selfishness referred to 1 SD below the mean, and all effect sizes were calculated at that point. Additionally, for studies 5a–5c, we examined the embarrassment, guilt, and shame groups separately from the control condition to account for differences in the embarrassment, guilt, and shame manipulations. Results from the regression analyses were then used to calculate effect sizes as  $r$ . Overall, we find that those with low selfishness are indeed less likely to commit fraud when EI was higher with a weighted mean effect size of  $-.09$  ( $Z = -3.53$ ,  $p < .01$ ). Together, these findings are consistent with prior research highlighting the prosocial benefits of EI, suggesting that high EI individuals are more likely to behave pro-socially when they possess altruistic motives. Furthermore, this meta-analysis empirically supports our contention that EI is merely neutral in valence, and its use is dependent on the underlying motives an individual possesses.

Furthermore, the correlation between EI and selfishness, particularly in study 5c ( $-.58$ ), provides important implications for theorizing surrounding EI. While we rely on an ability-based model of EI given our interest in consumers' ability to process their emotions, mixed models of EI have also been proposed that conceptualize EI as a construct entailing various other-focused personality traits including empathy (Mayer, Salovey, and Caruso 2004). Because mixed models involve the self-reporting of one's emotional skills as well as many other diverse aspects of personality, those models were not considered here. However, there may be more overlap between these models than previously known. While the correlation between EI and selfishness was much lower in other studies (e.g.,  $-.10$  in study 2), developing a greater ability to recognize, understand, and manage emotions in one's environment may naturally shift an individual's focus outward given the additional information collected through one's emotional skills. Enhanced EI helps individuals be more attuned with their environment (Kidwell et al. 2008). Thus, the likelihood of an individual being selfish is somewhat mitigated given greater knowledge of their surroundings. However, as we observed across our studies, those who are selfish are far more likely to engage in various fraudulent behaviors given their motivation to use EI to achieve immoral goals.

Our findings also provide practical implications for businesses. For example, previous studies of retail shoplifting have assessed how in-store deterrents, such as signs and surveillance affect theft frequency (Lindblom and Kajalo 2011; McNeen et al. 1976). However, research has been limited on differences in content across these various deterrents and their relative effectiveness. Based on our findings

and given the greater difficulty in enhancing EI, we propose that deterrents which reduce an individual's selfishness should be effective at reducing consumer fraud when EI is high. One possibility exists in emphasizing the negative outcomes of shoplifting to others as opposed to the punishment for those who get caught shoplifting. Anti-theft messages that shift the focus away from the individual to the consequences for others (e.g., statistics on children whose parents are arrested for stealing) should aid in reducing consumer fraud.

## Limitations and Future Research

While our findings provide new insights on the determinants of consumer fraud, some limitations should be noted. First, we examined immoral behavior against companies. However, an important aspect that affects moral decision-making involves the degree to which one ascribes a moral mind to the entity affected by a moral decision (Gray et al. 2012). It is reasonable to expect that decision-makers ascribe less of a moral mind to companies than other people. Therefore, future research should examine the types of consumer fraud that occur against other individuals. For example, consumers frequently sell used goods to each other through online marketplaces. Research could explore what personality characteristics and situational factors impact one's willingness to lie about and/or sell defective products to other consumers.

Secondly, our research only examines differences in how individuals process emotions through EI. However, other individual differences related to how consumers use their feelings to make decisions could affect the incidence of fraud. For example, study 4 demonstrated that selfish, high EI individuals feel less embarrassment toward the decision to commit fraud. Might consumers who are more intuitive (Cohen and Andrade 2004) or who place more trust in feelings as an input to decision-making (Avnet, Pham, and Stephen 2012) experience embarrassment associated with fraud differently than those high in EI? Furthermore, might these factors affect how feelings influence subsequent fraud decisions? It is also important to note that we measure EI in all studies. Future research could examine how manipulating EI impacts our findings.

Each of our studies uses the CEIS (Kidwell et al. 2008) to measure consumer EI. However, other measures, such as the MSCEIT (Mayer et al. 2003) can also assess EI. While the CEIS is a domain-specific measure associated with consumer EI in decision-making contexts and has improved predictive validity beyond other domain general EI measures (Kidwell et al. 2008), future research could explore whether these other measures meaningfully impact our findings. While we have no reason to believe the general pattern of effects observed here would be impacted by differences in EI measures, any changes in the findings here could indicate that certain measures of EI may be

more or less sensitive to decisions associated with morality.

Our studies were also constrained by the nature in which we could examine fraud. While we used controlled experiments to support our conceptual model and generalized our findings to the theft of an actual product in study 2, many instances of fraud occur in interpersonal settings. In the case of shoplifting, both retail employees and other consumers are present in the environment and store security may be indirectly watching consumer behavior through cameras. While it would be extremely difficult to study the interpersonal drivers of fraud within an actual retail environment, various social factors could be experimentally manipulated to examine their impact on fraud decisions. For instance, manipulating information on how frequently consumers are arrested for fraud or estimates of what percentage of consumers shoplift without getting caught could impact the willingness of consumers to commit various crimes.

Previous research has noted that the desire to enact justice against corporate greed also plays an important role in the fraudulent behavior consumers commit against companies (Coyle et al. 2009; Gupta, Gould, and Pola 2004; Hill 2007). Thus, future research could explore how company transgressions impact consumer willingness to commit fraud against them. Factors, such as a brand's country of origin (Magnusson et al. 2014) and the strength of consumer relationships with the brand (Park and John 2018) affect consumer responses to brand transgressions. Future studies could examine when selfish, high EI consumers respond to transgressions based on the nature of the violation and characteristics of the firm.

Finally, our research examines differences in emotional intelligence on the incidence of fraud. However, EI is comprised of various dimensions, including perceiving, facilitating, understanding, and managing emotions (Kidwell et al. 2008). Research could explore how these individual dimensions interact with selfishness to commit fraud. For instance, the perceiving and facilitating dimensions are linked to more automatic information processing (Hasford et al. 2018), which could impact how learned associations with fraud are recognized and integrated into thought. Future research could examine how these dimensions influence moral tradeoffs, particularly under cognitive limitations that may inhibit moral reasoning processes.

Together, our findings provide insights on when consumers are more likely to commit fraud. When consumers are selfish and possess high levels of EI, the likelihood of committing fraud in various contexts was enhanced. Given the widespread occurrence of crimes, such as digital piracy, insurance fraud, and shoplifting, future research should continue to explore the interpersonal differences and situational factors that impact the incidence of consumer fraud.

## DATA COLLECTION INFORMATION

Study 1 was collected by the first and second authors at Florida International University in February 2016. Study 2 was collected by the third author at the University of Kentucky in December 2018. Study 3 was collected by the fourth author at Mississippi State University in December 2019. Study 4 was collected by the first and third authors at the University of Tennessee and the University of Kentucky in September and October of 2019. Study 5a was collected by the first and third authors at the University of Tennessee and the University of Kentucky in the spring semester of 2020. Studies 5b and 5c were collected on Amazon MTurk by the third and fourth authors in October and November of 2020. All authors jointly analyzed the data. All data is currently stored at <https://osf.io/w4bt2/>.

## APPENDIX

### STUDIES 1, 3, AND 4: SELFISHNESS MANIPULATION

#### High Selfishness Scenario

We would like you to write about a time recently when you were selfish. Specifically, describe how you focused on yourself, your personal needs, and how it benefited you. Make sure to describe the situation in enough detail that someone unfamiliar with what happened could understand your situation. Please take your time, as you can advance forward after 1 minute.

#### Low Selfishness Scenario

We would like you to write about a time recently when you helped someone else. Specifically, describe how you focused on the needs of others and how it benefited them. Make sure to describe the situation in enough detail that someone unfamiliar with what happened could understand your situation. Please take your time, as you can advance forward after 1 minute.

### STUDIES 2 AND 5A–5C: MEASURE OF SELFISHNESS

All items on 5-point scales of *strongly disagree–strongly agree* (Shang et al. 2008;  $\alpha_{S2} = .73$ ,  $\alpha_{S5A} = .78$ ,  $\alpha_{S5B} = .87$ ;  $\alpha_{S5C} = .90$ )

1. I focus on me.
2. I am primarily focused on helping myself.
3. I usually look out for my own interests.
4. I am not focused on the needs of others.
5. I am not focused on helping other people.
6. I do not focus on the interests of other people.

### STUDY 3: PRICE TAG CHANGE SCENARIO

Please read the following scenario:

Imagine you are shopping for shoes in your local mall. You are in a very overpriced store, but it is the only one that currently has your size in stock. As you are deciding whether you buy, you notice that the price tag peels off easily and reveals an older but lower price on the shoes.

How likely are you to buy the shoes using the lower price tag?

### STUDY 4: INSURANCE CLAIM SCENARIO

Please read the following scenario:

You park in a crowded lot every day and your car has several scratches from other cars that park nearby. On your way home from work, another car hits you and causes an accident. You file a claim with your insurance company. During the process, the insurance company asks you whether the scratches already on your car were part of the accident.

You respond by saying. . .

- \_\_\_ Yes, the scratches were part of the accident
- \_\_\_ No, the scratches were not part of the accident

### STUDY 4: PROCESS MEASURES

All items measured on 5-point scales

*Embarrassment* (Krishna, Herd, and Aydinoglu 2019;  $\alpha = .92$ )

Saying the scratches were part of the accident would make me feel. . .

1. Not at all Embarrassed/Very Embarrassed
2. Not at all Uncomfortable/Very Uncomfortable
3. Not at all Awkward/Very Awkward
4. Not at all Self-Conscious/Very Self-Conscious

*Guilt* (Han et al. 2014;  $\alpha = .90$ )

Saying the scratches were part of the accident would make me feel. . .

1. Guilty (strongly disagree—strongly agree)
2. Blameworthy (strongly disagree—strongly agree)
3. Repentant (strongly disagree—strongly agree)

*Shame* (Han et al. 2014;  $r = .85$ )

When thinking about the possibility of getting caught by the insurance company, how much would you feel the following emotions?

1. Ashamed (not at all—a great deal)
2. Humiliated (not at all—a great deal)

*Anxiety* (Lee and Andrade 2015; Passyn and Sujun 2006;  $\alpha = .95$ )



Saying the scratches were part of the accident would make me feel. . .

1. Afraid (not at all—a great deal)
2. Anxious (not at all—a great deal)
3. Worried (not at all—a great deal)
4. Scared (not at all—a great deal)

*Threat* (Cole 1989;  $\alpha = .85$ )

In the previous scenario involving the insurance company, indicate how much threat you felt. . .

1. In terms of getting caught (no threat at all—a great deal of threat)
2. In terms of others finding out about your behavior (no threat at all—a great deal of threat)
3. In terms of my wellbeing (no threat at all—a great deal of threat)

*Risk Perceptions* (Cole 1989;  $\alpha = .85$ )

Please rate the extent to which you agree or disagree with the following statements:

1. Saying the scratches were part of the accident would be very risky.
2. I believe the insurance company would catch me if I said the scratches were part of the accident.
3. Saying the scratches were part of the accident would put me in danger.

*Emotional Reappraisal* (Gross and John 2003;  $\alpha = .94$ )

Based on your initial emotional reaction to the accident scenario, please rate the extent to which you engaged in the following actions:

1. I controlled my emotions by changing the way I thought about the situation.
2. I tried to feel less negative emotion about the situation.
3. I thought about the situation in a way that made me stay calm instead of stressed.
4. I changed the way I was thinking to feel more positive emotions.
5. I reconsidered any negative emotions I was feeling.
6. I changed the way I thought about negative emotions in the situation.

## STUDIES 5A–5C: EMBARRASSMENT, GUILT, AND SHAME MANIPULATIONS

### High Embarrassment

Some situations result in people feeling embarrassed. For example, walking into the opposite-sex restroom, purchasing condoms, walking in on your parents having sexual intercourse, and having someone tell you that you smell bad are each likely to result in you feeling embarrassed. We would like you to write about a time recently when you felt embarrassed. Specifically, describe the situation in enough detail that someone unfamiliar with what happened could

understand your situation. Please take your time, as you won't be able to advance forward until after 1 minute.

### Control

We would like you to write about a typical day for you. Specifically, describe a typical day in enough detail that someone unfamiliar with your typical day could understand your situation. Please take your time, as you won't be able to advance forward until after 1 minute.

### High Guilt

Some situations result in people feeling guilty. For example, lying to a friend, taking credit for someone else's work, indulging when you feel you should not, and breaking someone else's property are each likely to result in you feeling guilty. We would like you to write about a time recently when you felt guilty. Specifically, describe the situation in enough detail that someone unfamiliar with what happened could understand your situation. Please take your time, as you won't be able to advance forward until after 1 minute.

### High Shame

Shame is a feeling of failure that is experienced when we fall short of cultural or societal moral standards. It is experienced when our actions do not live up to expectations and we feel ashamed as a result. For example, feeling rejected or not getting promoted at work. Please take a couple of minutes and write about a time when you felt shame. Specifically, describe the situation in enough detail that someone unfamiliar with what happened could understand the situation. Please take your time, as you won't be able to advance forward until after 1 minute.

## STUDIES 5A–5C: PRODUCT RETURN SCENARIO

Please read the following scenario:

You recently made an online purchase from a retailer. When you receive the product and view it in person you realize that you no longer want this product. Now you decide you would like to send the product back to the online retailer, but you discover they only accept returns if a product was damaged during shipping.

Do you...

\_\_\_ Keep the product even though you would like to return it

\_\_\_ Return the product, claiming it was damaged during shipping

### Study 5a: Embarrassment Manipulation Check

All items on 5-point scales of *strongly disagree*–*strongly agree* ( $\alpha = .94$ )

Please indicate your level of each of the below characteristics as it relates to the writing task you just completed.

1. Embarrassed
2. Uncomfortable
3. Awkward
4. Self-Conscious

### Study 5b: Guilt Manipulation Check

All items on 5-point scales of *strongly disagree-strongly agree* ( $\alpha = .95$ )

Please indicate your level of each of the below characteristics as it relates to the writing task you just completed.

1. Guilt-Ridden
2. Remorseful
3. Culpable

### Study 5c: Shame Manipulation Check

All items on 5-point scales of *strongly disagree-strongly agree* ( $\alpha = .95$ )

Please indicate your level of each of the below characteristics as it relates to the writing task you just completed.

1. Ashamed
2. Humiliated
3. Mortified
4. Degraded

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