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Three Essays on How Marketplace Interpersonal Relationships Affect Persuasion

Yanfen You

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**THREE ESSAYS ON HOW MARKETPLACE INTERPERSONAL
RELATIONSHIPS AFFECT PERSUASION**

by

Yanfen You

A Dissertation Submitted in
Partial Fulfillment of the
Requirements for the Degree of

Doctor of Philosophy
in Management Science

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August 2018

ABSTRACT

THREE ESSAYS ON HOW MARKETPLACE INTERPERSONAL RELATIONSHIPS AFFECT PERSUASION

by

Yanfen You

The University of Wisconsin-Milwaukee, 2018
Under the Supervision of Professor Xiaojing Yang and Laura Peracchio

The purpose of this dissertation is to investigate how marketplace interpersonal relationships affect the persuasiveness of marketing messages, specifically how consumer process and respond to marketing messages. I examine interpersonal relationship in the marketplace from three perspectives: consumer-marketer relationship (essay I), consumer-consumer relationship (essay II), and consumer-humanized product relationship (essay III).

In the first essay, I examine how marketers can strategically use appreciation instead of apology after service delay to optimize the effectiveness of symbolic recovery. As an initial recovery effort after service delay, marketers need to decide “what to say” to consumers to restore their satisfaction. Prior work on service recovery suggests that marketers should employ an apology strategy (e.g., saying “Sorry about the delay”). In this article, I propose that an appreciation strategy (e.g., saying “Thank you for your patience”) is often more effective in restoring satisfaction. Drawing from research on linguistic framing and self-concept, I reason that such a subtle shift of focus in the marketer-consumer interaction, from emphasizing marketers’ mistake and accountability to spotlighting consumers’ merits and contribution, can increase consumers’ self-esteem and hence recovery satisfaction. Using various service delay

contexts, including two real-world delay situations, I show that appreciation is more effective than apology in promoting recovery satisfaction (Studies 1-2). I further provide convergent evidence that the superiority of appreciation to apology is caused by consumers' elevated self-esteem as a result of being thanked (Studies 3-5). I also identify two boundary conditions, severity of delay and obviousness of marketers' fault, for the superior effect of appreciation, such that the superiority of appreciation disappears when the service delay is perceived to minor (Study 6) and that superiority of appreciation is reversed when marketers' fault is obvious (Study 7).

In the second essay, I examine the diverse effects of friend and family reminders on consumers' regulatory focus and the persuasiveness of product appeals. Prior research suggests that close friends and family members exert similar effects on consumer behavior because both represent strong social ties and are subject to communal norms. However, on the basis of the auto-motive model and regulatory fit theory, I postulate that exposure to relationship reminders of close friends and family can actually have different impacts on consumers' subsequent purchase decisions. Across four experiments, I demonstrate that exposure to relationship reminders of close friends increases purchase intentions toward products with promotion-focused appeals while exposure to relationship reminders of family members increases purchase intentions toward products with prevention-focused appeals.

In the third essay, I examine how consumers view anthropomorphism in general. Specifically drawing from recent research on anthropomorphism and gender identity, I propose and attest to the identity-signaling function of anthropomorphism by examining the anthropomorphism–femininity association and its marketing implications. Eight studies provide convergent evidence for such an association. The pilot study shows that engaging in

anthropomorphic activities and purchasing anthropomorphic products are positively associated with femininity. Studies 1 and 2 provide evidence for both causal directions of the anthropomorphism–femininity association by demonstrating that people perceive a feminine (vs. masculine) person as more likely to purchase anthropomorphic products and judge a person who owns anthropomorphic (vs. nonanthropomorphic) products as more likely to be a woman. Study 3 further examines the association by examining how recalling one’s own anthropomorphic activities influences self-perceived femininity. Study 4 provides direct evidence using an Implicit Association Test. Finally, studies 5ab and 6 demonstrate the implications of the anthropomorphism–femininity association from the perspective of masculinity maintenance and gift-giving, respectively.

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To
my parents,
my husband,
and especially my son

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Chapter/Essay I

Toward Optimal Symbolic Recovery: When and Why “Thank you” is Better Than “Sorry” in Addressing Service Delays

Abstract

As an initial recovery effort after service delay, marketers need to decide “what to say” to consumers to restore their satisfaction. Prior work on service recovery suggests that marketers should employ an apology strategy (e.g., saying “Sorry about the delay”). In this article, we propose that an appreciation strategy (e.g., saying “Thank you for your patience”) is often more effective in restoring satisfaction. Drawing from research on linguistic framing and self-concept, we reason that such a subtle shift of focus in the marketer-consumer interaction, from emphasizing marketers’ mistake and accountability to spotlighting consumers’ merits and contribution, can increase consumers’ self-esteem and hence recovery satisfaction. Using various service delay contexts, including two real-world delay situations, we show that appreciation is more effective than apology in promoting recovery satisfaction (Studies 1-2). We further provide convergent evidence that the superiority of appreciation to apology is caused by consumers’ elevated self-esteem as a result of being thanked (Studies 3-5). We also identify two boundary conditions, severity of delay and obviousness of marketers’ fault, for the superior effect of appreciation, such that the superiority of appreciation disappears when the service delay is

perceived to minor (Study 6) and that superiority of appreciation is reversed when marketers' fault is obvious (Study 7).

Keywords: service delay, service recovery, apology, appreciation, self-esteem, linguistic framing

Introduction

Service delay, or unexpected delay after a service has been scheduled (Taylor 1994), is the most common type of service failure consumers encounter (Goodwin and Ross 1992). Research on service failure distinguishes between outcome (product) failure (e.g., a consumer's new car breaks down and incurs financial loss; Folkes 1984) and process failure (e.g., inattentive service which causes social loss not financial loss to consumers) (Smith, Bolton, and Wagner 1999). Correspondingly, literature on service recovery differentiates between utilitarian recovery (recovery efforts that offer financial compensation; Smith et al. 1999) and symbolic recovery (recovery efforts that involve no economic expenditure but provide consumers with social and psychological compensations; Bagozzi 1975). Unlike product failure that usually requires utilitarian recovery efforts to alleviate the "financial pain" felt by consumers (Dunn and Dahl 2012), service delay is a typical process failure in which marketers typically employ *symbolic* recovery efforts that help ease the "psychological pain" (e.g., feeling of not being respected) consumers undergo. Given the prevalence of service delay (accounting for approximately 40% of all service failures), this research focuses on identifying an optimal strategy for symbolic recovery to offer marketers guidance on how to grapple with the negative consequences of service delays.

Prior research suggests that service delay imposes a threat to consumers' self-esteem.

According to the sociometer theory of self-esteem, people's feelings about themselves are

affected by how they believe other people accept or reject them (Leary et al. 1995, 1998; Lemay and Ashmore 2006). That is, self-esteem represents one's relational value and is largely determined by the respect accorded by others (Leary and Baumeister 2000). Because service delay troubles consumers with an unexpected wait for the service and disarranges their schedule, it violates procedural justice and triggers an unfair perception among them. This unfairness perception can give rise to the feeling of being disrespected in terms of time, dignity and intelligence (Dunn 2016; Seiders and Berry 1998). Research on group relationships also shows that unfair treatment indicates interpersonal disrespect (Tyler and Lind 1992). In addition, insofar as consumers perceive a post-schedule delay as a signal of the marketer's lack of attention to their interest and lack of effort in protecting their welfare (Seiders and Berry 1998), their self-esteem is threatened because past research indicates that inattentiveness and ignorance from others, even non-human computers, could reduce one's self-esteem (Zadro, Williams, and Richardson 2004). Indeed, in a pilot study, consumers reported a lower self-esteem following a service delay ($M_{\text{delay}} = 4.07$ vs. $M_{\text{control}} = 5.29$; $t(108) = 4.22$, $p < .001$).

Given the negative psychological impact engendered by service delay, when a service delay occurs, marketers first need to decide "what to say" to consumers to restore their satisfaction. Both apology (e.g., "Sorry about the delay") and appreciation (e.g., "Thank you for your patience") are equally logical marketer responses, given that a service delay represents a situation in which marketers are indebted to consumers for their extra wait and that speech acts research suggests that apology (saying "sorry") and appreciation (saying "thank you") can be used interchangeably in situations involving indebtedness (such as favor asking and gift receiving; Coulmas 1980). However, prior work on service recovery has only discussed apology as a symbolic recovery strategy and suggests that marketers should employ an apology strategy

(Witrz and Mattila 2004; Goodwin and Ross 1992). This research thus fills the gap in the service recovery literature by establishing appreciation (e.g., saying “Thank you for your patience”) as a symbolic recovery strategy alternative to apology (e.g., saying “Sorry about the delay”). We also contribute to the literature by theorizing and documenting that appreciation is often more effective than apology in boosting consumer self-esteem and restoring customer satisfaction.

Recent work on linguistic framing suggests that logically equivalent expressions can have distinct psychological influences on consumers. For example, Patrick and Hagtvedt (2012) show that a change from saying “I can’t” to saying “I don’t” to oneself when refusing a tempting choice elicits more self-affirmation and empowerment among consumers, rendering them less susceptible to temptations. Similarly, Cheema and Patrick (2008) illustrate that the framing of coupon redemption windows as expansive (“anytime between”) or restrictive (“only between”) influences consumers’ evaluations of the sales promotion and their coupon redemption behavior. In light of these findings, we highlight a difference between the two expressions (“Sorry about the delay” and “Thank you for your patience”): whereas the former underscores marketers’ fault and accountability, the latter emphasizes consumers’ merits and contribution. We further propose that this subtle shift of focus within the marketer-consumer interaction can elicit distinct psychological feedback from consumers. Specifically, while an apology strategy restores consumers’ self-esteem (bring it back to the pre-service delay level) through admitting fault and establishing fairness, an appreciation strategy increases consumers’ self-esteem by honoring them as a benefactor and highlighting their merits and contributions. As a result, appreciation (vs. apology) should be more effective in boosting post-recovery satisfaction.

In the sections that follow, we first compare apology and appreciation as two symbolic recovery strategies for addressing service delay and present theoretical arguments as to why

appreciation is superior to apology in boosting consumers' self-esteem and satisfaction. We then report a series of field and lab studies that provide evidence for our main hypothesis as well as the proposed underlying mechanism. We conclude the paper with a discussion of our contributions to the marketing literature and practice.

Theoretical Framework

Apology

As a symbolic recovery strategy, apology (vs. no apology) has been shown to make consumers feel “fair” and restore consumer satisfaction (Goodwin and Ross 1992), especially when the apology is timely, earnest, and elaborate (Roschk and Kaiser 2013; Witz and Mattila 2004). Work on interpersonal transgression has also acknowledged the effectiveness of apology in eliciting conciliatory responses (e.g., more forgiveness) towards the transgressor. For example, apology (vs. no apology) improves the recipient's impression about the transgressor and leads to forgiveness (Struthers et al. 2008). Other research also indicates that apology (vs. no apology) reduces victims' anger, aggression (Darby and Schlenker 1982; Ohbuchi, Kameda, and Agarie 1989), and reproach (Hodgins and Liebeskind 2003). Because unfairness perceptions, anger and aggression are often manifestations of feelings of being disrespected (Dunn 2016; Seiders and Berry 1998), apology's ability to restore perceived fairness, elicit forgiveness, and alleviate anger suggests that it can at least repair consumers thwarted self-esteem (Tyler, DeGoey, and Smith 1996; Tyler and Lind 1992).

Despite its effectiveness in restoring customer satisfaction, apology as a symbolic recovery has potential negative long-term effects on the service provider. Indeed, some researchers assert that apologies express not only the apologizers' regret about the offense

(Kramer-Moore and Moore 2003), but also their admission of fault and willingness to accept responsibility for the offense (Darby and Schlenker 1982). In the service recovery context, service providers' apologies emphasize their mistakes and underscore their accountability in the service failure, a situation which may carry over to negatively influence service providers. Consistent with our view, research shows that although a seemingly successful recovery may lead to positive responses immediately following the negative service encounter, certain characteristics of the initial failure (e.g., severity) will still linger to influence future interactions (e.g., WOM and repatronage intentions; Swanson and Hsu 2011).

Appreciation

Despite not directly emphasizing their mistake, service providers' appreciation ("thank you for your patience") also implies their recognition of the delay and respect for consumers' time. Therefore, it also functions to repair consumers' thwarted self-esteem. However, contrary to apology, appreciation shows service providers' respect via the acknowledgement of consumers' merits and contribution in the service delivery. Self-verification theory suggests that people tend to instantly accept and respond positively to statements that converge with their desired beliefs (Ditto and Lopez 1992). Considering that people are generally motivated to pursue a positive self-view (Heine et al. 1999; Klein, Blier, and Janze 2001; Schaumberg and Wiltermuth 2014) and that psychologically healthy people often have a relatively high self-esteem, people are willing to accept positive statements about the self (Vonk 2002). When saying "Thank you", the speaker (beneficiary) shows his or her appreciation for an act performed by the hearer (benefactor; Searle 1969; Tesser, Gatewood, and Driver 1968). As such, appreciation demonstrates the speaker's approval of the hearer's merits by recognizing his or her

contributions. Based on sociometer theory (Leary and Baumeister 2000), positive approvals (e.g., popularity) and acceptance from others boost one's self-esteem.

In the context of service delay, appreciation ("Thank you") goes beyond the reparative effect of apology ("Sorry") on self-esteem because, rather than merely acknowledging service providers' mistakes and accountability that simply compensate for consumers' thwarted self-esteem, appreciation places consumers in the benefactor position and highlights their merits and contributions. These acts convey service providers' approval of the customers' positive qualities and thereby further boost customers' self-esteem. In contrast, service providers' apology does not convey any positive self-relevant information about the consumer. Therefore, even though apology compensates for the thwarted self-esteem derived from marketers' disrespect, it does not have the same esteem-boosting effect as appreciation.

The elevation in self-esteem promoted by marketers' appreciation in response to service delay in turn increases the effectiveness of service recovery. Research in both interpersonal and business contexts has consistently shown that people typically increase their evaluations of other people who approve of their virtue. Based on self-enhancement theory, people are motivated to evaluate themselves favorably, and therefore they respond positively to people who provide approval of their positive self-views (Colman and Olver 1978). Being approved by others' positive feedback is a comforting indicator of one's self-worth or virtue and induces more favorable evaluations towards the feedback provider (Jones, Gergen, and Davis 1962). These positive effects manifest even in situations when positive feedback is viewed as insincere or driven by ulterior motives (Vonk 2002). Therefore, we hypothesize that appreciation is more effective than apology in inducing post-recovery satisfaction and that elevated self-esteem mediates the superior effect of appreciation.

The Role of Narcissism in the Superior Effect of Appreciation

Although people have a universal motive to pursue self-esteem, the strength of this self-image-oriented motive varies from individual to individual. Specifically, narcissism which denotes a grandiose and inflated sense of self (Campbell, Rudich, and Sedikides 2002; Exline et al. 2004) captures the strength of people's desire to pursue self-esteem (Dunning 2007b; Sedikides et al. 2007). Research suggests that the motive to obtain others' approval and to be well regarded by others is especially strong among narcissists, whose consumption activities are often centered on pursuing self-esteem (Baumeister and Vohs 2001; Lee, Gregg, and Park 2013). For example, people high (vs. low) in narcissism have been found to engage in various self-presentation and self-enhancement behaviors, such as displaying their material possessions (Cisek et al. 2014) and purchasing customized and exclusive products that signal personal uniqueness (Lee, Gregg, and Park 2013).

Therefore, narcissism has been found to play a moderating role when the independent variable is related to promoting self-esteem. For example, because obtaining scarce resources can improve self-esteem, narcissism moderates the effect of product scarcity on product evaluations and willingness to pay, such that scarce (vs. plentiful) products lead to more favorable evaluations and willingness to pay among consumers with a high (vs. low) level of narcissism (Lee, Gregg, and Park 2013). If self-esteem is the driving force of the superiority of appreciation to apology, we should expect that narcissism moderates the effect of apology versus appreciation on recovery satisfaction, such that the superior effect of appreciation disappears for consumers with a relatively low level of narcissism.

The Role of Delay Severity in the Superior Effect of Appreciation

Extant research on service recovery has found that service failure severity moderates the effects of recovery efforts on post-recovery satisfaction (Nikbin and Hyun 2014). For example, service failure severity has been shown to moderate the effects of procedural justice on customer satisfaction (Barakat et al. 2015) and the effects of co-creation (customers and company develop the service or product together) on post-recovery evaluation (Roggeveen, Tsiros, and Grewal 2012). This is because service failure severity affects how consumers respond to the service failure (Sarkar Sengupta, Balaji, and Krishnan 2015). Indeed, prior work suggests that consumers become less attentive to the recovery solutions and strategies as the failure severity decreases (Roehm and Brady 2007; Roggeveen, Tsiros, and Grewal 2012). For example, only when the service delay reaches a certain severity degree does compensation increase post-recovery evaluations, and for less severe service delays, compensation does not influence post-recovery evaluations (Roggeveen, Tsiros, and Grewal 2012). In the same vein, we expect that delay severity moderates the effects of symbolic recovery (appreciation vs. apology), such that when the delay is perceived to be minor, consumers become less attentive to the specific symbolic recovery strategy marketers use; therefore, the superiority of appreciation should disappear. Therefore, we expect that delay severity moderates the effect of apology versus appreciation on recovery satisfaction. Specifically, the superior effect of appreciation disappears when the service delay is perceived to be minor.

The Role of Obviousness of Marketers' Fault in the Superior Effect of Appreciation

Based on our theorizing, instead of acknowledging marketers' fault, appreciation could strategically shift consumers' attention to their own merits to enhance customers' self-esteem and satisfaction. In most situations, it is not clear to consumers what caused the service failure

(Hui, Thakor, and Gill 1998); therefore, their attention can be easily drawn to their own merits by the appreciation strategy. However, when marketers' fault is evident and consumers' attention has been drawn to this situation, it is difficult for marketers to divert consumers' attention from their fault and accountability by highlighting consumers' merits. If they attempt to do so, consumers will perceive them as insincere and manipulative. Indeed, research has consistently shown that attempting to manipulate customers with ostensibly positive yet insincere acts frequently backfires (Barasch, Berman, and Small 2016; Torelli, Monga, and Kaikati 2012). Building on this stream of research, we expect that appreciation backfires when consumers' attention is drawn to marketers' fault.

Overview of The Studies

We examine the relative effectiveness of the two symbolic recovery strategies (appreciation vs. apology) in seven studies related to various delay contexts. Studies 1 and 2 provide field evidence for the advantageous effect of appreciation. Studies 3 to 5 provide comprehensive evidence for our proposed mechanism, self-esteem. Study 3 measures self-esteem and shows that it mediates the advantageous effect of appreciation versus apology. Study 4 tests the proposed mechanism with a moderation design. Specifically, we find that the superior effect of appreciation disappears when consumers' self-esteem has already been boosted. Study 5 provides triangulating evidence for the proposed mechanism by showing that the advantageous effect of appreciation disappears for consumers with relatively low level of narcissism. Studies 6 and 7 further establish boundary conditions for the advantageous effect of appreciation: Severity of delay and obviousness of marketers' fault. Specifically, we show that the advantageous effect of appreciation disappears when the service delay is perceived to be minor (Study 6) and apology is more effective than appreciation when the marketer's fault is made to be salient (Study 7).

Study 1: restaurant field study

Study 1 aims to test our central premise that appreciation works better than apology in addressing service delays in a field setting. In a restaurant service-delay setting, the customers were provided with either the appreciation or apology recovery. To ensure that there was a service delay without interfering with the restaurant's routine, we purposefully let the customers wait longer than the promised wait time. We chose customers who dined at the restaurant around the lunch time (11:00 am-1:00 pm) on three weekdays.

Method

One hundred twenty-three patrons to a restaurant were randomly assigned to three conditions (appreciation vs. apology vs. control). After the customers ordered their food, the server promised that their food would be ready soon. However, all the customers ended up waiting about 30 minutes to 50 minutes. We manipulate the symbolic recovery strategy when the server returned to the customers' tables with the food they ordered. In the appreciation condition, the server appreciated the customers, saying "*Thank you for waiting for such a long time!*" In the apology condition, the server apologized to the customers, saying "*Sorry for keeping you waiting for such a long time!*" In the control condition, the server directly placed the food on the table. After that, the server told the customers that the restaurant was doing a short survey on the quality of the restaurant, and the customers can help the restaurant out by completing a few questions and leaving the survey on the table. Then the server placed the small survey cards next to the customers and left.

Results

We used the customers' response rate (filled=1; unfilled =0) as the dependent variable to represent the effectiveness of recovery strategy. A binary logistic regression model was performed on customers' responses, with the service recovery strategy conditions as independent variables (the conditions were dummy-coded: dummy variable 1= thanks; dummy variable 2 = control). Results showed a greater tendency for customers to fill the survey in the appreciation condition (82.5%) compared to the apology condition (30.2%; dummy 1: $b = 2.387$, $SE = .53$, $Wald = 20.101$, $p < .001$). Additionally, customers in the control condition (12.5%) were less likely to fill the survey than those in the apology condition (dummy 2: $b = -1.110$, $SE = .58$, $Wald = 3.634$, $p = .057$).

Discussion

Study 1 confirms the effectiveness of apology as a symbolic recovery strategy by showing that apology elevated customers' survey response rate compared to the no recovery, control condition. More importantly, Study 1 provides evidence that appreciation is more effective than apology as a symbolic recovery strategy.

Study 2: delayed compensation distribution real behavior study

Study 2 aims to test the robustness of the superiority of appreciation over apology in another field setting. Specifically, we delayed distributing financial compensation to lab participants and examined the effectiveness of appreciation and apology with a follow-up survey. In addition to response rate, customers' satisfaction was also directly assessed in Study 2.

Method

The experiment was conducted at the end of the semester. Undergraduate students who participated in a series of experiments were told that as a token for their support to the lab during the semester, they would get an opportunity to enter a lucky draw to win red packets at the end of lab session. After they completed the studies, they entered a lucky draw and told the research assistant the amount of money they get for their red packets. One hundred seventeen participants ended up receiving the red packets. Participants were promised that they would receive their compensation around 8:00 p.m. on the same day of the experiment. However, they were not contacted by the research assistant until 8:00 p.m. on the following day. Using a mobile payment app, the research assistant in charge of compensation payment greeted participants with either *“Thank you for waiting for such a long time! Please accept your red packet!”* or *“Sorry for keeping you waiting for such a long time! Please accept your red packet!”* and distributed the compensation. After that, a follow-up survey link was sent to participants to invite them to provide some feedback about the compensation distribution. Participants’ satisfaction with the compensation distribution was measured with four, seven-point scales adapted from Spreng, MacKenzie, and Olshavsky (1996) (1 = very negative/ frustrated/ bad/ dissatisfied to 7 = very positive/content/good/satisfied; $\alpha = .91$; the scores were averaged to form a satisfaction index).

Results

We hypothesized that participants in the appreciation condition would be more likely to take the survey and report more satisfaction. To test these predictions, we ran a logistic regression on survey response (1= response, 0 = non-response) as the independent variable with recovery strategy as the predictor. Results revealed that participants in the appreciation condition were more likely to complete the survey (91.07% vs. 78.43%; $\chi^2=3.35$; $p =.067$) than those in the apology condition.

In addition, an independent t-test on the satisfaction index further showed that participants in appreciation condition were more satisfied with the compensation distribution ($M = 5.52$, $SD = .95$) than participants in apology condition ($M = 5.11$, $SD = 1.06$; $t(89) = 1.96$, $p = .051$). This result provided direct evidence that participants were more satisfied with the appreciation strategy than apology strategy after a delay.

Discussion

Study 2 further confirms the superiority of appreciation in another field context by demonstrating that appreciation leads to both higher survey response rate and satisfaction.

Study 3: self-esteem mediates the superior effect of appreciation

Study 3 has two objectives. First, we examine the proposed underlying mechanism for our previous findings: elevated self-esteem mediates the effect of appreciation versus apology on recovery satisfaction. Second, to further assess the robustness of our effect, Study 3 uses a different service delay scenario: delayed delivery of an online order.

Method

Study 3 employed a one-factor (recovery strategy: appreciation vs. apology vs. control) between-subjects design. One hundred fifty-three MTurk workers (46.80% female; $M_{age} = 36.02$, $SD_{age} = 11.51$) completed the study for monetary compensation and were randomly assigned to the three conditions.

Participants were asked to imagine that they bought a product online and the store promised that the product would be delivered in two days. However, they did not receive the

product until the third day. After reading the scenario, participants received the recovery strategy manipulation. In the appreciation condition, participants were told that a message from the online store accompanying the delayed product stated, *“Thanks for your patience! We appreciate your understanding and forgiveness.”* In the apology condition, the message read, *“Sorry for the delayed delivery! Hope you can understand and forgive us.”* In the control condition, participants did not receive any message from the company.

After that, participants were asked to indicate their satisfaction with the way in which the online store addressed the shipping delay with the same measures as in studies 1 and 2 ($\alpha = .97$; averaged to form a recovery satisfaction index). In addition, we measured their overall satisfaction with the online store using three, seven-point scales (1 = strongly disagree; 7 = strongly agree) ($\alpha = .94$; averaged to form an overall satisfaction index): (1) I am very satisfied with this online store; (2) The service of this online store is very good, and (3) The service of this online store is very thoughtful. Moreover, participants' intentions to provide positive reviews and WOM for the online store were measured with two, seven-point scales adapted from previous research (Grohmann 2009; Raggio and Folse 2009): (1) To what extent would you be willing to provide a high rating for this online store? (2) How likely are you to recommend this online store to your friends or close others? (1 = Not at all, 7 = Very much) ($r = .81$; averaged to form a recommendation intention index).

We further assessed self-esteem, the proposed mediator, using two, seven-point scales adapted from Zadro, Williams, and Richardson (2004): (1) The way the store handled the service delay made me feel that I was a respectable person, and (2) The way the store handled the service delay made me feel that I was important (1 = Strongly disagree; 7 = Strongly agree) (r

= .87; averaged to form a self-esteem index). Finally, participants provided basic demographic information.

Results

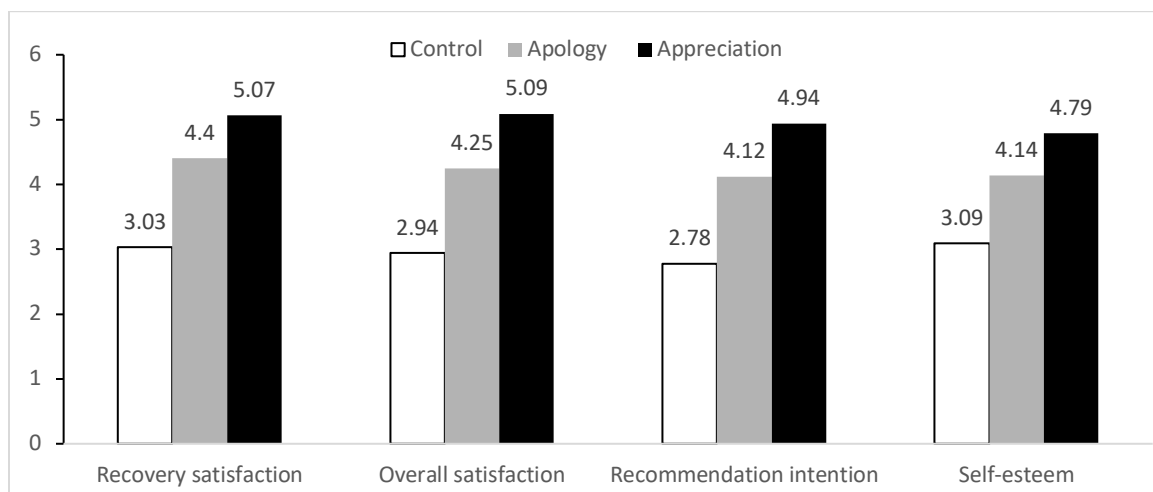
Recovery satisfaction. A one-way ANOVA conducted on the recovery satisfaction index revealed a main effect of recovery strategy ($F(2, 150) = 32.99, p < .001$). Further contrast analysis indicated that participants in the apology condition were more satisfied than participants in the control condition ($M_{\text{apology}} = 4.40, SD = 1.31$ vs. $M_{\text{control}} = 3.03, SD = 1.41$; $t(150) = 5.26, p < .001$). Furthermore, participants in the appreciation condition were more satisfied than those in the apology condition ($M_{\text{appreciation}} = 5.07, SD = 1.24$; $t(150) = 2.42, p = .017$).

Overall satisfaction with the online store. Revealing the same pattern, a one-way ANOVA conducted on the overall satisfaction with the online store revealed a significant main effect of recovery strategy ($F(2, 150) = 33.13, p < .001$). Contrast analysis showed that participants in the appreciation condition reported more satisfaction with the online store ($M = 5.09, SD = 1.26$) than those in the apology condition ($M = 4.25, SD = 1.41$; $t(150) = 2.92, p = .004$) and those in the control condition ($M = 2.94, SD = 1.43$; $t(150) = 8.00, p < .001$). Furthermore, participants in the apology condition also demonstrated more satisfaction than those in the control condition ($t(150) = 4.86, p < .001$).

Recommendation intentions. A one-way ANOVA performed on the recommendation intention index once again revealed a significant main effect of recovery strategy ($F(2, 150) = 29.29, p < .001$). Participants in the appreciation condition indicated higher intentions to recommend the store ($M = 4.94, SD = 1.37$) than those in the apology condition ($M = 4.12, SD = 1.56$; $t(150) = 2.67, p = .009$) and those in the control condition ($M = 2.78, SD = 1.51$; $t(150) = 7.50, p < .001$).

Self-esteem. A one-way ANOVA conducted on the index of self-esteem showed a significant main effect of recovery strategy ($F(2, 150) = 16.92, p < .001$). Contrast analysis showed that participants in the appreciation condition reported higher self-esteem ($M = 4.80, SD = 1.39$) than those in the apology condition ($M = 4.14, SD = 1.61; t(150) = 2.06, p = .041$) and those in the control condition ($t(150) = 5.71, p < .001$). In addition, participants in the apology condition also reported high self-esteem than those in the control condition ($t(150) = 3.49, p < .001$).

Figure 1. 1. The effect of recovery strategy on satisfaction and self-esteem



Mediation analysis. To demonstrate that appreciation (vs. apology vs. control) increased recovery satisfaction through elevated self-esteem, we performed a bootstrapping mediation analysis (Model 4; Hayes 2013) with 5000 iterations. Recovery strategy was coded into two dummy variables with apology condition as the base group (dummy 1: apology = 0, control = 1; dummy 2: apology = 0, appreciation = 1). The results showed that the relative indirect effect of recovery strategy on recovery satisfaction through self-esteem was significant ($b_1 = -.73, SE = .22, 95\% CI: -1.16 \text{ to } -.31; b_2 = .46, SE = .22, 95\% CI: .03 \text{ to } .94$), which indicated that self-esteem mediated the effect of recovery strategy on recovery satisfaction.

We used the same method to examine whether self-esteem mediated the other two dependent measures (overall satisfaction with the store and recommendation intention). The analyses consistently showed that the relative indirect effects of recovery strategy on overall satisfaction with the store ($b_1 = -.78$, $SE = .23$, 95% CI: -1.25 to -.32; $b_2 = .49$, $SE = .23$, 95% CI: .05 to .95) and recommendation intention ($b_1 = -.77$, $SE = .23$, 95% CI: -1.22 to -.31; $b_2 = .48$, $SE = .23$, 95% CI: .03 to .94) through self-esteem were significant.

Discussion

Study 3 provided additional evidence that appreciation performed better than apology and that apology performed better than no recovery in addressing service delays by showing that appreciation not only led to higher recovery satisfaction but also resulted in higher overall satisfaction with the service provider and higher recommendation intentions. Study 3 also confirmed the role of self-esteem in mediating the advantageous effect of appreciation (vs. apology vs. control) in enhancing recovery satisfaction. Specifically, we found that appreciation (vs. apology vs. control) elevated consumers' self-esteem, which in turn led to a higher level of satisfaction with the company's recovery effort and with the company itself.

Study 4: manipulating self-esteem

To provide further evidence for self-esteem as the underlying mechanism, Study 4 manipulates participants' self-esteem level. If appreciation (vs. apology) as a service recovery strategy increases consumers' recovery satisfaction because it increases their self-esteem, this advantageous effect should be attenuated when consumers' need for self-esteem has already been satisfied. We expect that, when consumers' self-esteem is boosted by prior experimental methods, the superiority of appreciation to apology should disappear. Furthermore, Study 4 aims to rule out potential alternative accounts (i.e., perception of delay severity, lay theory of the store, and

relationship mindset). Specifically, saying “sorry” might make consumers feel the delay to be longer, the store to be more commonly have service delays, or that saying “thank you” and “sorry” makes the consumers perceive the relationship with the marketer to be relational- or exchange-oriented respectively.

Method

Study 4 featured a 2 (self-esteem: low vs. high) × 2 (recovery strategy: apology vs. appreciation) between-subjects design. Two hundred and fifty-nine undergraduate students (56.0 % female; $M_{age} = 20.32$, $SD_{age} = 1.20$) participated in this study for monetary compensation and were randomly assigned to one of the four conditions.

Participants were informed to conduct several unrelated tasks. In the first task, we used extensively used bogus feedback method (e.g. Greenberg & Pyszczynski, 1985; McMillen, Sanders, & Solomon, 1977) to manipulate participants’ self-esteem. Specifically, participants completed an English word generation task which was designed to test their ability to generate words in English and their performance on the test provides an accurate and reliable measure of English verbal ability (adopted from Dewall et al. 2011). Specifically, participants were given 10 letters (ARCBOENTML) and were asked to generate as many English words as possible using any number and combination of the letters. After completing the task, participants were told that their scores would be determined by two factors: the number of English words generated and the quality (complexity) of those words. Then participants waited 5 seconds for a hypothetical algorithm to calculate their scores. In the low self-esteem condition, participants were told that their performance was ranked in the bottom 10% which meant that their score was lower than 90% of students who have completed the English word generation test. In the high self-esteem condition, participants were told their performance was ranked in the top 10% which meant that

their score was higher than 90% of students who have completed the English word generation test.

After that, participants were advanced to a seemingly unrelated task. Participants were asked to read about a service delay situation in which they went out for dinner with some friends. However, after they were seated at the table, they had to wait about 30 minutes for the server to come back to take their orders. Then participants were randomly assigned to either the apology or the appreciation condition. In the apology condition, the server came back and apologized for the delay, saying “*I’m sorry for keeping you waiting! I apologize.*” In the appreciation condition, the server came back and appreciated their patience, saying “*Thank you for your patience! I appreciated it.*” Then the service refilled their glasses with water and took their orders.

Then participants reported their satisfaction with the server on the three seven-point Likert scale used in Study 2 ($\alpha = .90$; averaged to form an overall satisfaction index). In addition, participants indicated their tipping likelihood (how likely would you be to leave your server a tip; 1= not at all likely, 7= very likely) and tip amount (what percentage of the bill would you tip your server; 0-30%). Consumers’ perception of the delay severity (To what extent do you consider the delay to be a service failure? 1= not at all, 7= very much so), lay belief of the company (To what extent do you feel that the service delay happens all the time in this restaurant? 1= not at all, 7= very much so), and relationship perception with the server (How do you feel about your relationship with the server? 1= more like friendship, 7= more like business relationship) were also measured.

Finally, basic demographic information was collected.

Results

Satisfaction with the sever. A 2-way ANOVA was conducted on customer overall satisfaction with the server. Results revealed a significant main effect of recovery satisfaction (F

(1, 255) = 18.336, $p < .001$). The main effect for self-esteem was not significant ($F(1, 255) = .438, p = .509$). There was a marginally significant interaction effect of self-esteem and recovery strategy ($F(1, 255) = 3.67, p = .057$). Contrast analysis indicated that in the low self-esteem condition, appreciation leads to more satisfaction than apology ($M_{\text{appreciation}} = 3.38, SD = 1.30$, vs. $M_{\text{apology}} = 2.45, SD = 1.11; F(1, 255) = 18.42, p < .001$). However, in the high self-esteem condition the difference reduced to marginally significant ($M_{\text{appreciation}} = 2.99, SD = 1.27$, vs. $M_{\text{apology}} = 2.64, SD = 1.16; F(1, 255) = 2.93, p = .088$).

Tipping likelihood. Similar analysis was conducted on tipping likelihood. None of the main effect approached significance (p 's $> .13$). There was a significant interaction effect ($F(1, 255) = 6.75, p < .01$). Contrast analysis showed that in the low self-esteem condition, appreciation led to higher tipping likelihood ($M_{\text{appreciation}} = 4.87, SD = 1.60$ vs. $M_{\text{apology}} = 3.94, SD = 1.85; F(1, 255) = 8.20, p < .001$). However, no significant difference was found after participants' self-esteem has been boosted ($M_{\text{appreciation}} = 4.25, SD = 1.80$ vs. $M_{\text{apology}} = 4.49, SD = 1.95; F(1, 255) = .59, p = .444$).

Tip amount. Similar analysis was conducted on tip amount. None of the main effect approached significant (p 's $> .18$). There was a marginally significant interaction effect ($F(1, 255) = 3.63, p = .058$). Contrast analysis showed that in the low self-esteem condition, appreciation led to higher tipping likelihood ($M_{\text{appreciation}} = 12.13, SD = 4.90$ vs. $M_{\text{apology}} = 9.88, SD = 5.60; F(1, 255) = 5.11, p = .025$). However, no significant difference was found after participants' self-esteem has been boosted ($M_{\text{appreciation}} = 10.66, SD = 6.00$ vs. $M_{\text{apology}} = 11.04, SD = 5.55; F(1, 255) = .16, p = .69$).

Alternative accounts. 1) Perception of delay severity. A two-way ANOVA was conducted on participants' perception of the delay severity. Neither the main effects nor the

interaction effect approached significant (p 's $>.33$), suggesting the self-esteem manipulation and the recovery strategy did not change participants' perception of the delay severity. The ground mean for perceived delay severity ($M = 5.00$, $SD = 1.42$) was significantly higher than the mid-point (4.0) ($t(258) = 11.36$, $p <.001$), suggesting that participants did believe there was a certain degree of service failure. 2) Lay theory of the store. A two-way ANOVA showed an unexpected marginally significant effect of recovery strategy ($F(1, 255) = 3.63$, $p = .078$). Participants in the appreciation condition were more likely to perceive the delay to happen all the time in the restaurant ($M_{\text{appreciation}} = 4.66$, $SD=1.19$ vs. $M_{\text{apology}} = 4.39$, $SD = 1.26$) The main effect of self-esteem manipulation and the interaction were not significant (p 's $>.32$). 3) Relationship mindset (relational vs. contractual relationship). Similar analysis was conducted on participants' mindset of the relationship. Neither the main effects nor the interaction effect approached significant (p 's $>.13$), suggesting the self-esteem manipulation and the recovery strategy did not change participants' perception of the relationship with the server. The ground mean for relationship mindset ($M = 5.32$, $SD = 1.30$) was significantly higher than the mid-point (4.0) ($t(258) = 16.46$, $p <.001$), suggesting that participants in general feel the relationship is a business relationship.

Discussion

Whereas Study 3 directly measured self-esteem and assessed its mediating role in the effect of appreciation versus apology on consumer responses, Study 4 provided additional evidence for this underlying mechanism employing a moderation-of-process approach (Spencer, Zanna, and Fong 2005). Specifically, we found that when participants' self-esteem has already been elevated, the advantage of appreciation over apology disappeared. Study 4 also rules out possibilities that recovery strategy changes consumers' perception of the delay severity, lay theory of the marketer, or consumers' mindset of the relationship with the marketer. In the next

study, we again use the moderation-of-process approach to provide further evidence for self-esteem as the underlying mechanism by examining the moderating role of narcissism, a personality trait determining the strength of the desire to pursue self-esteem.

Study 5: narcissism as a moderator

Study 5 aims to provide further evidence for the mediation role of self-esteem. If self-esteem is the driving force of the superiority of appreciation to apology, we would expect narcissism to moderate the effect of apology versus appreciation on recovery satisfaction, such that appreciation (vs. apology) should be more effective for consumers with relatively high levels of narcissism whereas the effect disappears for those with relatively low levels of narcissism.

Method

Study 5 employed a 2 (apology vs. appreciation) \times continuous (narcissism) between-subjects design. One hundred fifteen Mturk workers (54.80% female; $M_{age} = 39.75$, $SD_{age} = 13.00$) completed the study for monetary compensation and were randomly assigned to the apology or appreciation condition.

Study 5 was identical to Study 1 except that there was no control condition. Participants imagined a restaurant service delay scenario, received the recovery strategy manipulation (apology vs. appreciation), and indicated their recovery satisfaction with the measures used in previous studies ($\alpha = .85$; averaged to form a recovery satisfaction index. After that, they were presented with 16 pairs of statements that assessed their level of narcissism (Ames et al. 2006) and were asked to indicate which one in each pair was more applicable to them. Each pair contained a narcissism-consistent statement (e.g., I know that I am good because everybody

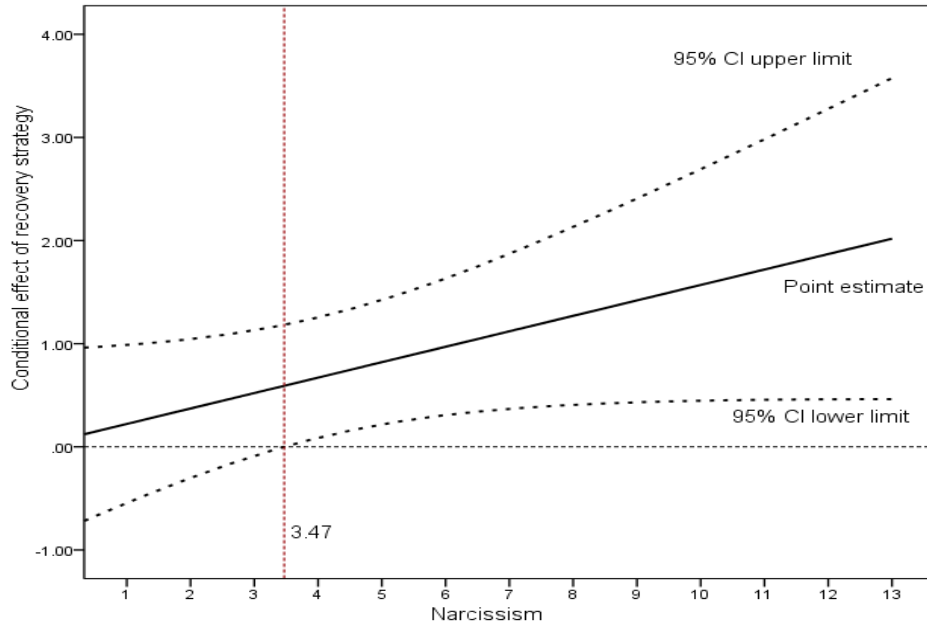
keeps telling me so) and a narcissism-inconsistent statement (e.g., when people compliment me, I sometimes get embarrassed). Finally, participants reported demographic information.

Results

Consistent with Ames, Rose, and Anderson (2006), we coded participants' narcissism-consistent responses as 1, and narcissism-inconsistent responses as 0, and summed their responses across the 16 pairs of statements ($\alpha = .83$) to form a narcissism index ($M = 4.13$, $SD = 3.64$) with higher numbers indicating higher levels of narcissism. A bootstrapping procedure with 5000 iterations (Model 1; Hayes 2013) was performed on participants' narcissism scores, the dummy variable of recovery strategy (1 = appreciation, 0 = apology), and their interaction. No significant main effects were found for either narcissism or recovery strategy (p 's $> .13$).

As we expected, there was a marginally significant interaction between recovery strategy and narcissism ($t(111) = 1.84$, $p = .069$). To decompose this interaction, we conducted a floodlight analysis (Spiller et al. 2013) using the Johnson-Neyman technique to identify the region(s) of the narcissism index for which the simple effect of recovery strategy on recovery satisfaction was significant. This analysis indicated that there was a significant positive effect of appreciation (vs. apology) on recovery satisfaction for participants whose narcissism index was higher than 3.47 ($B_{JN} = .59$, $SE = .30$, $p = .05$), but not for those whose narcissism index was lower than 3.47, as the 95% confidence band in this region included zero (see Figure 2).

Figure 1. 2. Narcissism moderates the effect of recovery strategy on recovery satisfaction



Discussion

By showing that narcissism moderates the effect of recovery strategy (appreciation vs. apology) on recovery satisfaction, Study 5 provided triangulating support for self-esteem as the process explanation. Consistent with prior research that people high in narcissism have a stronger desire to pursue self-esteem, we found that because appreciation (vs. apology) enhances the recipient's self-esteem, it is received more favorably by participants high in narcissism.

In studies 3 to 5, we examined the role of self-esteem in explaining why appreciation is more effective than apology in redressing service delays. In the next two studies, we attempt to identify boundary conditions for this effect. Specifically, Study 6 aims to examine the severity of delay in determining the relative effectiveness of the two strategies. From the perspective of focus shift, Study 7 aims to examine whether the apology will be more effective when consumers attention is drawn to marketers' mistake.

Study 6: moderation role of delay severity

Method

One hundred sixty-nine undergraduates (46.7% female; $M_{age} = 20.63$, $SD_{age} = 1.87$) participated in the study for partial course credit. The students were randomly assigned to a 2 (recovery strategy: apology vs. appreciation) \times 2 (severity perception: minor vs. major) between-subjects design.

After reading a scenario about a two-day product delivery delay in which recovery strategy was manipulated, participants were told that based on their past experience, a two-day delay was much shorter (vs. longer) than the delays they normally encountered. Participants then indicated their satisfaction with the store ($\alpha = .89$) and positive WOM ($r = .87$).

Results

Attitude towards the store. A two-way ANOVA revealed a significant main effect of severity perception ($(F(1, 165) = 3.96, p = .048)$) and a main effect of recovery strategy ($(F(1, 165) = 6.13, p = .014)$). More importantly, there was a marginally significant interaction effect ($F(1, 165) = 3.49, p = .063$). Contrast analysis showed that in the major condition, appreciation led to more satisfaction ($M_{appreciation} = 4.05, SD = 1.02$ vs. $M_{apology} = 3.25, SD = 1.35$; $F(1, 165) = 9.61, p = .002$). However, no significant difference was found when the delay was perceived to be minor ($M_{appreciation} = 4.07, SD = 1.28$ vs. $M_{apology} = 3.96, SD = 1.08$; $F(1, 165) = .18, p = .67$).

Recommendation intention. Similar analysis was conducted on recommendation intention. Results revealed a marginally significant main effect of severity perception ($(F(1, 165) = 2.90, p = .090)$). The main effect for recovery strategy was not significant ($(F(1, 165) = 2.42, p = .12)$). More importantly, there was significant interaction effect ($F(1, 165) = 4.00, p = .047$). Contrast analysis showed that, when the delay was perceived to be major, appreciation led to more satisfaction ($M_{appreciation} = 3.61, SD = 1.37$ vs. $M_{apology} = 2.89, SD = 1.32$; $F(1, 165) = 6.43, p$

=.012). However, no significant difference was found when the delay was perceived to be minor ($M_{\text{appreciation}} = 3.56$, $SD = 1.41$ vs. $M_{\text{apology}} = 3.65$, $SD = 1.25$; $F(1, 165) = .10$, $p = .76$).

Discussion

Study 6 examines the role of delay severity in the superior effect of appreciation. By documenting that the superiority disappeared when consumers perceived the delay to be minor, Study 6 not only establishes a boundary condition for the superiority effect of appreciation but also provides further evidence for the underlying mechanism of self-esteem. According to our theory, service delay thwarts consumers' self-esteem and the superiority effect of appreciation occurs because appreciation is better at compensating and elevating consumers' thwarted self-esteem. When the service delay is perceived to be minor, consumers do not experience much threat to their self-esteem. Therefore, they are not attentive to what marketers say.

Study 7: apology works better when marketers' mistake is obvious

In the previous studies, we demonstrated that appreciation elevated customer self-esteem and recovery satisfaction by drawing consumers' attention from marketers' mistake to customers' own merits hence elevate their self-esteem. Study 7 aims to demonstrate that when consumers' attention is drawn to marketers' mistake (i.e., marketers' mistake is obvious), apology works better.

Method

One hundred seventy undergraduate students (42.90% female; $M_{\text{age}} = 20.78$, $SD_{\text{age}} = 1.43$) completed the study for partial course credit. Participants were randomly assigned to a 2

(obviousness of marketers' mistake: obvious vs. control) \times 2 (recovery strategy: apology vs. appreciation) between-subjects design.

We embedded our manipulation of recovery strategy (apology vs. appreciation) in the restaurant dining scenario used in studies 1 and 5, featuring a service delay where it takes the server 30 minutes to take orders. Before receiving this manipulation, participants were exposed to the manipulation of obviousness of marketers' mistake. In the obvious condition, participants were told that the server was chatting casually with another server during the 30 minutes they waited. In the control condition, we did not specify why the server took so long to take the order.

After that, we measured participants' recovery satisfaction ($\alpha = .83$) with the same measures used previously. Participants also responded to two measures that assessed the manipulation of obviousness of marketers' mistake. Specifically, they indicated their agreement with each of two statements (1 = Strongly disagree, 7 = Strongly agree): "The service delay that I encountered was the server's fault," and "The service delay was out of the server's control" (the latter measure was reverse coded; $r = -.55, p < .001$; the measures were averaged to form a manipulation check index). Finally, participants reported their demographics.

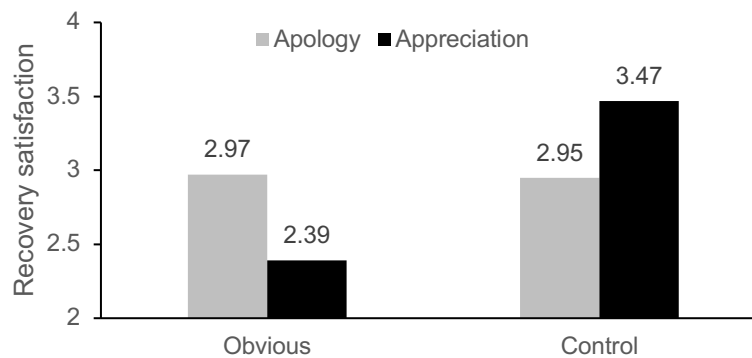
Results

Manipulation check. A 2×2 ANOVA performed on the manipulation check index yielded only a significant main effect of our manipulation ($F(1, 166) = 95.97, p < .001$). Specifically, participants in the mistake-obvious condition ($M = 5.54, SD = 1.04$) were more likely to attribute the service delay to the server than participants in the control condition ($M = 3.84, SD = 1.19$), confirming the success of our manipulation of obviousness of marketers' mistake.

Recovery satisfaction. The same ANOVA conducted on recovery satisfaction revealed a significant main effect of obviousness of marketers' mistake ($F(1, 166) = 6.96, p = .009$), such

that recovery satisfaction was higher among participants in the control condition ($M = 3.26$, $SD = 1.39$) than among those in the obvious mistake condition ($M = 2.69$, $SD = 1.24$). The analysis also showed a significant two-way interaction ($F(1, 166) = 7.32$, $p = .008$). Planned contrasts suggested that in the control condition, appreciation led to higher recovery satisfaction ($M = 3.47$, $SD = 1.51$) relative to apology ($M = 2.95$, $SD = 1.14$; $F(1, 166) = 3.34$, $p = .069$; see Figure 3), confirming our previous findings. However, in obvious mistake condition, the result was reversed, and apology was more effective ($M = 2.97$, $SD = 1.26$) than appreciation ($M = 2.39$, $SD = 1.16$; $F(1, 166) = 3.99$, $p = .048$).

Figure 1. 3. Obviousness of marketers' mistake moderates the effect of recovery strategy on recovery satisfaction



Discussion

Study 7 identified another boundary condition for the superiority effect of appreciation—when consumers attention is drawn to the obviousness of marketer's fault, a reverse pattern of results occurs showing that apology (vs. appreciation) was more effective in enhancing recovery satisfaction.

General discussion

Service delay is prevalent in service encounters across industries and sectors and accounts for approximately 40% of all service failures (Goodwin and Ross 1992). To examine how to tackle service delays (and service failures in general), prior research has focused on two types of service recovery strategies, utilitarian (i.e., compensation) and symbolic (i.e., apology), and has concluded that, on many occasions, apology as a symbolic recovery strategy is just as effective as one that involves compensation. Focusing on the category of symbolic strategy, our research does not intend to refute the effectiveness of apology, but instead discusses another viable symbolic recovery strategy—appreciation—and investigates when and why “Thanks” might work better than “Sorry” in redressing service delays.

We conducted seven experiments in a variety of service delay contexts. In Study 1, we not only confirmed the effectiveness of apology in recovering service delays documented by previous work but also demonstrated the superiority of appreciation to apology in eliciting recovery satisfaction. Study 2 replicated this superior effect of appreciation in another real-world delay situation. In Study 3, we showed that this superiority was mediated by consumers’ elevated self-esteem conferred by appreciation. Studies 4 and 5 provided additional support for this mediation mechanism by demonstrating that the superiority of appreciation diminished when consumers’ self-esteem had been boosted (Study 4) and among consumers who lacked a strong desire to pursue high self-esteem (i.e., low in narcissism) (Study 5). Lastly, we identified two boundary conditions for the superiority of appreciation. Specifically, the superiority of appreciation disappeared when the delay was perceived to be minor (Study 6) and our primary effect was reversed (apology was more effective than appreciation) when the marketers’ fault

was obvious. Taken together, these research findings contribute to research on service recovery, linguistic framing, and self-concept.

Theoretical contributions

Our research findings contribute to the literature on service recovery. Prior service recovery research has focused primarily on two types of service recovery: compensation and apology. The former is a utilitarian tactic that offers tangible material benefits, whereas the latter is a symbolic tactic in which acknowledgment of the service failure is offered without material compensation (Smith et al. 1999). Despite the prevalence of appreciation in people's daily language, no prior research has examined its use in the service recovery context or compared its effectiveness with apology in increasing post-recovery satisfaction. By identifying appreciation as another viable symbolic recovery strategy and discussing its superiority to apology in various service delay contexts, our research represents the first attempt to provide an alternative option to apology, and thus broadens the scope of symbolic recovery. Further, by identifying self-esteem as the underlying mechanism and by establishing severity of delay and obviousness of marketers' mistake as boundary conditions, our research investigates why and when the appreciation recovery strategy is more effective than the apology strategy in inducing consumer satisfaction.

Our research also adds to the emerging research on linguistic framing by examining the effects of saying "Sorry" versus "Thank you," two seemingly equally appropriate social responses, on consumer response. Focusing on pairs of logically or semantically equivalent expressions, work on linguistic framing has demonstrated that, although these similar expressions can be used somewhat interchangeably, their minor differences in wording convey distinct psychological feedback that affects behavioral outcomes (Cheema and Patrick 2008;

Mayer and Tormala 2010; Patrick and Hagtvedt 2012). Our work contributes to such research by demonstrating that a mere shift from “Sorry” to “Thank you” in marketers’ verbal response to service delay can alter consumers’ perceived self-esteem, which in turn influences their recovery satisfaction.

Our findings also provide insights into research on self-concept by identifying previously unexplored antecedents and consequences of self-esteem. Prior research has shown that the pursuit of self-esteem is prevalent in consumer behavior (Dunning 2007a), as consumers routinely engage in consumption activities that facilitate their positive self-perceptions (Cisek et al. 2014; Dunning 2007a). For example, consumers can achieve self-esteem by purchasing material possessions (Cisek et al. 2014), by resorting to conspicuous and status-signaling consumption (Sivanathan and Pettit 2010), and by sharing only positive information with socially distant others in WOM communications (Dubois, Bonezzi, and De Angelis 2016). However, this extant research on self-esteem revolves primarily around consumers’ self-directed consumption activities. Our research suggests that marketer-initiated behavior or marketing strategy, as opposed to consumers’ own behavior, can also increase consumers’ self-esteem. Specifically, we demonstrate that marketers’ verbal appreciation (vs. apology) after service delays enhances consumer self-esteem, which induces favorable marketing outcomes such as satisfaction and WOM.

Managerial implications and future research

Our findings have substantial implications for marketers regarding how to effectively recover service delays and service failures in general. As an initial step after service delay, marketers need to decide “what to say” to consumers to restore satisfaction. Despite abundant guidance about whether and when to redress a service failure, researchers have offered little

advice about “what to say,” except for recommending that marketers should apologize for the service failure. Our work suggests that, rather than saying “Sorry,” marketers could say “Thank you” and this simple shift of focus in marketer-consumer interaction, from apologizing for marketers’ mistakes to appreciating customers’ merits (e.g., patience and understanding), helps enhance consumer satisfaction.

Moreover, this research also emphasizes that what marketers should say (“Thank you” vs. “Sorry”) needs to be tailored to certain situational factors (e.g., obviousness of marketers’ fault) and consumers’ personality traits (e.g., narcissism). For example, before service recovery, marketers should gauge the service situation and especially be mindful of whether ambiguity exists regarding the locus of responsibility. In many real-world service situations, consumers are unsure who is accountable for a service failure; marketers should employ the appreciation strategy in situations in which the locus of responsibility is not salient. However, when the marketers’ fault is obvious, our research suggests that a sincere apology is a better strategy than appreciation. We also alert marketers to the importance of consumers’ personality traits, especially their level of narcissism. Our research suggests that marketers should use appreciation in their service recovery for consumers with a higher narcissistic tendency (those who use social networks more, are younger, etc.) but should be aware that this appreciation strategy is not necessarily better than the apology strategy for those low in narcissism.

Given our finding that self-esteem plays a significant role in building positive consumer relationships (e.g., post-recovery satisfaction, overall evaluations of the marketer, and WOM intentions), marketers could consider increasing consumers’ self-esteem as a win-win strategy to obtain favorable responses. Affirming consumers’ self-esteem can also be applied in other marketing contexts. For example, in the email marketing context, companies could enhance

consumer self-esteem by addressing their customers as “VIPs” and by acknowledging their contributions and value, among others.

Future research could extend our findings in several directions. First, although we examined the moderating roles of consumer narcissism, severity of delay, and obviousness of marketers’ fault in the superiority of appreciation to apology in increasing recovery satisfaction, future research could explore other moderating variables. One such example is lay rationalism (i.e., the individual tendency to rely on reasons vs. emotions in decision-making; Hsee et al. 2014). Because the advantageous effect of appreciation we identified can be traced to elevated self-esteem, this effect may disappear among people predisposed to focus on reasons (vs. emotions) when making decisions.

In this article, we focused on appreciation as a service recovery strategy that can increase consumers’ self-esteem and promote their recovery satisfaction. One unanswered question is whether marketing strategies that appreciate customers and enhance their self-esteem are always beneficial. Research on entitlement and equity (Campbell et al. 2004; Wetzel, Hammerschmidt, and Zablah 2014) has suggested that consumers often feel entitled to receive treatment that matches their perceived status. An interesting possibility is that enhancing consumer self-esteem with appreciation may backfire by making them feel entitled to more special treatment from marketers in the long run. Future research could examine this possibility.

Furthermore, our research findings on appreciation’s superiority to apology as a recovery strategy are derived from the service delay context. Another avenue for future research is to compare these two strategies in other types of service failure (e.g., product defects and unclear policy; Goodwin and Ross 1992) and investigate whether consumers react to these service recovery strategies in these other contexts in the same way as identified in our research.

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Chapter/Essay II

“We” are different: Exploring the diverse effects of friend and family reminders on consumers’ product preferences

Abstract

Prior research suggests that close friends and family members exert similar effects on consumer behavior because both represent strong social ties and are subject to communal norms. However, on the basis of the auto-motive model and regulatory fit theory, we postulate that exposure to relationship reminders of close friends and family can actually have different impacts on consumers’ subsequent purchase decisions. Across four experiments, we demonstrate that exposure to relationship reminders of close friends increases purchase intentions toward products with promotion-focused appeals while exposure to relationship reminders of family members increases purchase intentions toward products with prevention-focused appeals.

Keywords: Relationship reminders; Promotion-focus; Prevention-focus; Regulatory fit

Introduction

Imagine that Jackie is choosing between the following tour packages: a package featuring adventure and excitement and a package emphasizing safety and comfort. Just moments ago, she received a greeting message from someone close (i.e., a close friend or a family member) on her cell phone. Although the message has nothing to do with the tour packages, we surmise that Jackie's product choice will be affected by whether the message sender is a close friend or a family member.

Although relationship reminders of close friends and family members through, for example, short greeting messages prevail in consumers' daily lives, little is known about the effects of these relationship reminders (Cavanaugh, 2014), and no research in marketing has attempted to distinguish between these two types of relationships. Indeed, as two typical strong social ties (Aknin, Sandstrom, Dunn, & Norton, 2011), close friends and family members represent consumers' communal relationships (Aggarwal, 2004) and are often considered part of "we" (Cross, Bacon, & Morris, 2000). Therefore, prior research has often treated these two relationships identically, suggesting that they exert similar effects on a wide array of consumer behaviors, including risk taking (Trump, Finkelstein, & Connell, 2015) and word of mouth (Dubois, Bonezzi, & De Angelis 2016).

Our research contributes to this stream of literature by identifying a situation in which reminders of close friends and family members may diverge in their effects on consumer behavior. Specifically, drawing from literature on relationship reminders and interpersonal goals, we demonstrate that reminders of friends and family trigger distinct regulatory orientations, such that reminders of a friend (family member) activate a promotion (prevention) focus and increase purchase intentions toward products with promotion- (prevention-) focused appeals.

Theoretical background

Self-regulatory orientations

Regulatory focus theory posits that two underlying regulatory orientations drive consumer judgment and decision making: a promotion orientation, which involves pursuing advancement, achievement, growth, and aspirations, and a prevention orientation, which involves fulfilling responsibilities or obligations and ensuring security (Crowe & Higgins, 1997; Higgins, 1997; Lee & Aaker, 2004). Consumers with these two regulatory foci resort to different goal pursuit strategies (Crowe & Higgins, 1997; Liberman, Idson, Camacho, & Higgins, 1999). Specifically, promotion- (prevention-) focused consumers are more likely to employ an eagerness (vigilance) strategy when pursuing their goals and are more willing to take (avoid) risks (Pham & Avnet, 2004).

We posit that promotion-oriented goals (e.g., pursuing improvement, fun-seeking) are relatively more predominant on occasions when people are with their friends while prevention-oriented goals (e.g., fulfilling family obligations, security seeking) are more prevalent on occasions when people are with their family members. In line with the auto-motive model (Gollwitzer & Bargh, 2005), we further argue that relationship reminders of friends (vs. family) trigger promotion- (vs. prevention-) focused interpersonal goals.

Relationship reminders and interpersonal goals

Relationship reminders (e.g., a photo of friends) are ubiquitous, as relationships are frequently promoted or celebrated in everyday life, ranging from media coverage through marketing communications to personal correspondence (Cavanaugh, 2014). Indeed, people are sensitive to relationship cues (Baumeister & Leary, 1995; Cavanaugh, 2016; Leary & Baumeister, 2000), and therefore reminders of close friends and family members, two prototypical close social relationships, are likely to influence consumer behavior by activating interpersonal goals

without consumers' awareness (Fitzsimons & Bargh, 2003). That is, even when friends and family are physically absent, "thinking about or being reminded of a certain significant other—which can be promoted easily and innocently by merely glancing at their photograph on our wall or desk—is sufficient to put into motion those goals one chronically pursues when with that person" (Gollwitzer & Bargh 2005, p. 628).

The auto-motive model (Gollwitzer & Bargh, 2005) suggests that consumers who frequently and consistently pursue a goal in a certain situation develop in their mental representations strong, automatic associations between the goal and that situation. Accordingly, consumers' mental representations of their close friends and family members incorporate interpersonal goals that are consistently pursued when they are with their friends and family (Fitzsimons & Bargh, 2003). Indeed, reminders of close friends and family serve as important situational triggers to pursue these interpersonal goals (Gollwitzer & Bargh, 2005). Fitzsimons and Bargh (2003) showed that reminding participants of their friends by asking them to write down their friends' initials and then answer questions about them led participants to help the experimenter more (e.g., agreeing to participate in additional experiments). This is because "being helpful" is embodied in situations in which people are with their friends. Building on the auto-motive model, we next discuss that friend versus family reminders trigger different interpersonal goals because people consistently pursue different goals when they are with their friends versus family members (Wood & Robertson, 1978).

Extant research on social relationships lends support to our speculation that people often pursue promotional goals when they are with their close friends. Research has well established that people have long-standing goals of having fun when with their friends (Gollwitzer & Bargh, 2005). On the one hand, being with friends can lead people of all ages and both genders to

engage in activities that help improve skills, have fun, and experience excitement (e.g., sports; Black & Weiss, 1992). On the other hand, friend-related motivations (e.g., “My friends like this activity,” “This activity helps me make new friends”) and a promotion focus (e.g., “I like to learn new things,” “It’s just fun”) consistently co-occur in consumers’ daily activities (e.g., playing video games; Ferguson & Olson, 2013). Thus, this co-occurrence is likely to render the promotion focus salient when consumers encounter friend reminders. Even in old age, people’s friends (vs. family members) often play a more dominant role in elevating their morale (Larson, Mannell, & Zuzanek, 1986). As promotional goals are inherently embodied in social contexts with friends, and in accordance with the auto-motive model (Gollwitzer & Bargh, 2005), we expect that reminders of friends will trigger promotion-focused goals.

By contrast, prior research and everyday experiences indicate that prevention-oriented goals, especially responsibility fulfillment, dominate in family contexts. Family responsibilities, a crucial part of one’s family role, range widely from caring for family members to engaging in household-related tasks (Perry, Lorinkova, Hunter, Hubbard, & McMahon, 2016; Ruderman, Ohlott, Panzer, & King, 2002). For example, parents take on duties related to child-care tasks, such as doctor appointments, teacher conferences, extracurricular events, and domestic activities (Kim, Sheridan, Kwon, & Koziol, 2013; Shockley & Allen, 2007; Williams & Anthony, 2015). Conversely, adult children tend to fulfill filial responsibilities by meeting their parents’ basic needs (Schorr, 1960) and retaining some obligatory contact as their parents grow old (Wood & Robertson, 1978). Research also shows that family members, not friends, tend to play a dominant role in providing health care, financial support, and emergency assistance to other family members (Larson et al., 1986). Taken together, goal representations of protection and

responsibility are the primary focus of the family role. Therefore, reminders of close family members (e.g., parent, child) are likely to activate prevention-focused goals.

Regulatory fit between relationship reminder and product appeal

Regulatory fit occurs when consumers' goal pursuit strategies match their regulatory orientations (Aaker & Lee, 2006; Cesario, Grant, & Higgins, 2004; Lee, Keller, & Sternthal, 2010). Research has well established that regulatory fit between product benefit frames and consumers' regulatory orientations increases product choice and purchase intentions (Aaker & Lee, 2001). For example, advertising messages featuring promotion- (prevention-) focused product benefits are more persuasive among consumers with an independent (interdependent) self-view (Aaker & Lee, 2001) and when the advertised product is depicted from an actor's (observer's) perspective (Zhang & Yang, 2015). To the extent that reminders of friends (family) trigger promotion- (prevention-) focused goals, we expect that a fit exists between friend (family) reminders and promotion-oriented (prevention-oriented) product appeals. Specifically, we expect that exposure to reminders of a close friend increases purchase intentions of products with promotion-oriented appeals while exposure to reminders of close family members improves purchase intentions of products with prevention-oriented appeals. We examine the proposed effects in four studies.

Study 1a: tour packages

The objective of Study 1a is twofold. First, the study aims to provide initial evidence of the interaction effect of relationship reminders (friend vs. family) and product appeals (promotion- vs. prevention-focused) on consumers' purchase intentions. Second, the study intends to rule out psychological distance as an alternative explanation, in that differences in

consumer choice of promotion- versus prevention-focused products could be caused by the different psychological closeness consumers have with friends versus family members.

Method

One hundred sixty-one undergraduate students participated in the study (54% female, $M_{\text{age}} = 20.5$) for partial course credit. They were randomly assigned to a 2 (relationship reminder: friend vs. family) \times 2 (product appeals: promotion- vs. prevention-focused) between-subjects design.

Participants were told that the study consisted of two unrelated parts. Participants first completed the relationship reminder task. We manipulated relationship reminders with a procedure adapted from Cavanaugh (2014). Specifically, participants were asked to imagine that they received New Year's greetings from either a close friend or a family member and then to recall and describe a recent positive experience with that person in as much detail as possible.

Second, under the cover story that they needed to select a tour package to be taken together with the person they described previously, participants were presented with a tour package with either promotion- or prevention-focused appeals. Promotion-focused appeals featured excitement and adventure (e.g., "mysterious and inspiring forest"), while prevention-focused appeals highlighted comfort and safety (e.g., "comfortable and agreeable forest"). Appendix A reports the pretest that provided validity evidence for this manipulation. Afterward, participants indicated their purchase intentions ("We would consider trying this tour package," "We plan to try this tour package," and "We are very likely to try this tour package"; 1 = strongly disagree, 7 = strongly agree; $\alpha = .89$) and answered two filler questions. Participants also reported their psychological distance to the person they described using the inclusion-of-other-in-the-self scale (Aron, Aron, & Smollan, 1992). Finally, they provided demographic information.

Results and discussion

An ANCOVA on purchase intentions revealed a significant relationship reminder \times product appeal interaction ($F(1, 156) = 38.12, p = .00$), controlling for psychological distance ($F(1, 156) = 1.93, p = .17$). None of the main effects were significant ($ps > .16$). Additional contrast analysis showed that participants in the friend reminder condition reported higher purchase intentions toward the package with promotion-focused appeals ($M_{\text{promotion}} = 4.89, SD = 1.23; M_{\text{prevention}} = 3.70, SD = 1.53; F(1, 156) = 16.29, p = .00$) while participants in the family reminder condition reported higher purchase intentions toward the package with prevention-focused appeals ($M_{\text{prevention}} = 4.64, SD = 1.23; M_{\text{promotion}} = 3.27, SD = 1.33; F(1, 156) = 22.06, p = .00$).

Study 1a provided preliminary evidence that reminders of friends led to higher purchase intentions toward products with promotion-focused appeals while reminders of family led to higher purchase intentions toward products with prevention-focused appeals. Furthermore, Study 1a ruled out psychological distance as an alternative explanation by showing that perceived psychological distance had no significant impact on purchase intentions and that the relationship reminder \times product appeal interaction was significant after controlling for psychological distance.

Study 1b: restaurant

Method

Study 1b aims to replicate the findings from Study 1a using an alternative product category (restaurant) and therefore uses the same design and procedures as in Study 1a. One hundred sixty-seven undergraduate students (56% female, $M_{\text{age}} = 20.3$) participated in the study for partial course credit. The study employed a 2 (relationship reminder: friend vs. family) \times 2 (product appeals: promotion- vs. prevention-focused) between-subjects design. Participants first

completed the relationship reminder task and then received information about a restaurant with either promotion-focused (e.g., “The drinks bring you a feeling of excitement”) or prevention-focused (e.g., “The drinks contain antioxidant health factors”) appeals (see Appendix B for the pretest). Afterward, they indicated their purchase intentions ($\alpha = .94$) and reported their demographic information.

Results and discussion

A two-way ANOVA on purchase intentions revealed a significant interaction between relationship reminder and product appeal ($F(1, 163) = 28.59, p = .00$). There was no significant main effect of relationship reminder ($F(1, 163) = 1.47, p = .23$), though there was a marginally significant main effect of product appeal ($F(1, 163) = 3.31, p = .07$). Planned contrast analysis indicated that participants in the friend reminder condition reported higher purchase intentions toward the restaurant with promotion-focused appeals ($M_{\text{promotion}} = 4.82, SD = 1.43; M_{\text{prevention}} = 4.05, SD = 1.34; F(1, 163) = 5.97, p = .02$) while participants in the family reminder condition reported higher purchase intentions toward the restaurant with prevention-focused appeals ($M_{\text{prevention}} = 4.95, SD = 1.41; M_{\text{promotion}} = 3.39, SD = 1.47; F(1, 163) = 26.80, p = .00$).

Taken together, Studies 1a and 1b provide converging evidence for the proposed effects. However, as both products (i.e., tour packages and restaurants) used in Studies 1a and 1b are experiential purchases, we attempt to augment the robustness of the findings by examining material purchases in Study 2 (flash drive) and Study 3 (sneakers).

Study 2: flash drive

Method

One hundred twenty-one undergraduate students participated in the study (59% female, $M_{\text{age}} = 20.5$) and were randomly assigned to a two-cell design (relationship reminder: friend vs.

family). Participants first read a text message from either a close friend or a family member and completed the recall task from Study 1. Then, they received two brands of flash drives (Speed King and Security King). The Speed King featured promotion-focused appeals (e.g., “Super cool CTSE sliding design ... allows you to have the extraordinary experience of thinness and lightness”), and the Security King emphasized prevention-focused appeals (e.g., “Smooth DTEE sliding cap ... prevents you from losing data and reduces the burden of bringing the cap”; see Appendix C for the pretest). Next, participants indicated their choice between the two flash drives and reported their demographic information.

Results and discussion

We conducted a logistic regression on product choice with relationship reminder as the independent variable to test the hypothesis. Results showed that relationship reminders significantly affected participants’ choice between Security King and Speed King (Wald $\chi^2 = 4.05, p < .05$). Specifically, participants in the friend reminder condition were more likely to choose the Speed King than those in the family reminder condition (52.6% vs. 34.4%).

By showing that the match between relationship reminders and product appeals increased product choice, Study 2 provided further evidence that relationship reminders are an important antecedent of regulatory focus. As the product was to be consumed by the participants themselves, Study 2 ruled out the other person’s preference as an alternative account. Study 2 also indicates that the results hold for both experiential and material goods.

Study 3: sneakers

The goal of Study 3 was threefold. First, instead of relying on student samples as in the previous studies, we recruited Amazon Mechanical Turk (MTurk) workers, who tend to have more types of family members (e.g., children) or friends (e.g., from work). Second, Study 3

attempts to augment the ecological validity of our findings by manipulating relationship reminder in a different way. Third, to increase the robustness of our results, the study uses another material, self-consumption product—athletic shoes.

Method

One hundred fifty-seven MTurk workers (67.5% female, $M_{\text{age}} = 38.15$) participated in the study for monetary compensation. Participants were randomly assigned to a 2 (relationship reminder: friend vs. family) \times 2 (product appeals: promotion- vs. prevention-focused) between-subjects design.

Participants were first exposed to the relationship reminder manipulation following Fitzsimons and Bargh's (2003) procedure. Participants were asked to think of one of their close friends or family members and to form a vivid image of him or her in their minds, write down that person's initials, and recall an experience with him or her. Then, participants read product descriptions about a pair of sneakers framed in either a promotion- (e.g., "EVLite material provides an experience of ultra-lightness") or a prevention- (e.g., "EVLite material prevents you from sliding") focused style (see Appendix D). Afterward, they indicated their purchase intentions and completed manipulation checks of product appeal. Finally, they reported their demographic information.

Results and discussion

Manipulation check

Participants perceived the promotion-focused appeals as providing more promotion-oriented benefits ($M = 4.81$, $SD = 1.51$; $M = 4.26$, $SD = 1.54$; $t(155) = 2.21$, $p = .03$) and less prevention-oriented benefits than prevention-focused appeals ($M = 3.87$, $SD = 1.97$; $M = 4.46$, $SD = 1.86$; $t(155) = 1.84$, $p = .067$). These results suggest that our manipulation of product appeals was successful.

Purchase intentions

A two-way ANOVA revealed a significant interaction between relationship reminder and regulatory focus ($F(1, 153) = 11.60, p = .001$). There was a main effect of relationship reminder ($F(1, 153) = 11.73, p = .001$), though the main effect of product appeal was not significant ($F(1, 153) = 1.33, p = .25$). Planned contrast analysis indicated that when reminded of their close friend, participants in the promotion-focused condition were more likely to purchase the product than those in the prevention-focused condition ($M_{\text{promotion}} = 4.27, SD = 1.37; M_{\text{prevention}} = 3.28, SD = 1.50; F(1, 153) = 8.51, p = .004$). By contrast, when reminded of their family member, participants in the prevention-focused condition reported higher purchase intentions than those in the promotion-focused condition ($M_{\text{prevention}} = 4.76, SD = .88; M_{\text{promotion}} = 4.27, SD = 1.47; F(1, 153) = 4.05, p = .07$).

Discussion

Study 3 replicated the results of Study 2 with a different manipulation of relationship reminders, thus providing further evidence that the fit between relationship reminders and the regulatory focus of product appeals increases purchase intentions. The study further examined the robustness of the effects by employing a different material purchase (i.e., athletic shoes) in the context of decision making for oneself. Finally, we found converging evidence for our theorizing by using MTurk samples instead of students.

General discussion

This research highlights how reminders of two ostensibly similar interpersonal relationships (i.e., close friends and family members) exert distinct effects on consumers' regulatory orientations. Across four studies, we show that after exposure to reminders of a close friend, consumers prefer products more with promotion- than prevention-focused appeals.

Conversely, after exposure to reminders of family members, consumers show higher purchase intentions toward products with prevention- than promotion-focused appeals. This research indicates that despite being treated as identical, these two relationship types activate distinct regulatory orientations. Thus, this research contributes to the literature on interpersonal relationships and regulatory focus.

Theoretical contributions

This research extends the research on interpersonal relationships. Extant research assumes that close relationships (i.e., close friends and family members) exert similar effects on consumer behavior variables, such as refusal to accept gifts (Shen, Wan, & Wyer, 2011) and the valence of word of mouth (Dubois et al., 2016). The current research represents the first attempt to distinguish these two types of relationships by showing that they exert different effects on consumers' regulatory orientations: whereas reminders of close friends activate a promotion focus, reminders of family members induce a prevention focus.

This research also contributes to regulatory focus theory by identifying a novel factor that shapes consumers' regulatory orientations. Extant research focuses primarily on product characteristics and individual characteristics, such as abstraction of product information (Lee et al., 2010), actor versus observer perspective of product displays (Zhang & Yang, 2015), and consumer self-views (Aaker & Lee, 2001). Recently, researchers have begun exploring the effects of other situational factors on regulatory orientation. For example, research has identified stage of goal pursuit (Bullard & Manchanda, 2015) and salience of a global versus local identity (Ng & Batra, 2017) in determining consumers' regulatory orientations. Our work adds to this emerging research stream by examining regulatory orientation from a relationship perspective and identifying the novel factor of relationship reminder as a determinant that shapes regulatory orientations and subsequent product choices.

Managerial implications

Our finding that the regulatory fit between relationship reminders and product appeal enhances purchase intentions provides several implications for marketers. First, marketers can tailor their advertising appeals to fit relationship reminders. For example, the holidays Mother's Day and Father's Day work as natural relationship reminders of family. According to our findings, marketers should feature prevention-focused benefits, such as safety, comfort, and risk prevention, in their product appeals during these holidays to maximize customer purchase intentions. Second, marketers often directly employ relationship reminders on their product packaging with photos of friends or family members (Cavanaugh, 2014). According to our research findings, the mere presence of friends or families might affect product judgments and decision making. Thus, marketers should ensure the employed relationship reminders fit their product appeal.

As promotion- and prevention-focused orientations also differ in exploration style and risk taking, product category matters in marketers' decisions of which relationship reminders to use to promote their products. Our research findings suggest that for risk-prevention products (e.g., insurance), marketers should adopt reminders of core family members. However, for products intended to provide fun or excitement (e.g., base jumping, scuba diving, zip lining), relationship reminders of friends could induce higher purchase intentions. Similarly, to promote diversity seeking, marketers could feature friendships but not family relationships to boost consumers' exploration propensity, while for products that provide less exploration opportunity, relationship reminders of a close family member might help reduce consumers' alternative-seeking motives.

Future research directions

Our research opens up multiple possibilities for future research. Researchers can examine when our findings that reminders of friends (family members) prompt a promotion (prevention) focus may reverse. For example, consumers sometimes treat their family members as friends, and their friends as family members; it would be interesting to examine if our findings reverse (or disappear) under these circumstances.

Another future direction is to examine additional effects of relationship reminders on consumers' judgment and decision making. For example, researchers can investigate how relationship reminders affect consumers' reliance on affective versus cognitive information when making consumption decisions. Prior research indicates that consumers with a promotion (vs. prevention) focus rely more on affective (vs. cognitive) information (Pham & Avnet, 2009). Thus, it stands to reason that reminders of friends may prompt an affective focus when consumers make purchase decisions, whereas reminders of family members render consumers more cognitively focused.

Future research could also examine other consequences of relationship reminders such as uniqueness seeking and conspicuous consumption. Extant literature suggests that consumers often try to differentiate themselves from other group members by maintaining some level of uniqueness in product choice (Chan, Berger, & Van Boven, 2012). Our findings suggest that the specific type of relationship in a social group (e.g., friends, family members, co-workers) can alter the relative weights consumers assign to this differentiation goal, thereby shaping consumers' uniqueness seeking and product choices to a different degree. For example, relationship reminders of friends and co-workers (vs. family) might make consumers more willing to stand out and purchase products that signal uniqueness or status.

Our research also points out some novel ways to expand prior research on interpersonal relationships and relationship reminder. For example, Cavanaugh (2014) shows that reminding consumers of social relationships (i.e., friendship, romantic relationship) increases (decreases) their indulgence if they (don't) have that relationship because of an elevated (a lack of) feeling of deservingness. Our research suggests that the relationships being reminded also matter; reminders of family members could induce less indulgence, as reminders of family members do not activate deservingness or entitlement, but instead a sense of responsibility and duty.

Our research also calls for more research on discrete interpersonal relationships and their distinct effects on consumer behavior. Whereas previous research has broadly categorized interpersonal relationships into communal versus exchange relationships (Johnson & Grimm, 2010; Miller et al., 2014) or close versus remote relationships (Ein-Gar & Levontin, 2013; Huang, Broniarczyk, Zhang, & Beruchashvili, 2015; Tu, Shaw, & Fishbach, 2016; Ward & Broniarczyk, 2011), we demonstrate that discrete relationships in these broad, generic categories may also have significant differences. Specifically, we showed that two discrete close relationships—close friends and family members—can activate diverse regulatory orientations. Future research could examine additional discrete relationships, instead of categorizing them into broad, generic categories, and investigate their unique influences on consumer behavior.

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Chapter/Essay III

Is Anthropomorphism Feminine? Unveiling the Anthropomorphism–Femininity

Association

ABSTRACT

Anthropomorphism is widely adopted in marketing communications and product designs. Drawing from recent research on anthropomorphism and gender identity, we propose and attest to the identity-signaling function of anthropomorphism by examining the anthropomorphism–femininity association. Eight studies provide convergent evidence for such an association. The pilot study shows that engaging in anthropomorphic activities and purchasing anthropomorphic products are positively associated with femininity. Studies 1 and 2 provide evidence for both causal directions of the anthropomorphism–femininity association by demonstrating that people perceive a feminine (vs. masculine) person as more likely to purchase anthropomorphic products and judge a person who owns anthropomorphic (vs. nonanthropomorphic) products as more likely to be a woman. Study 3 further examines the association by examining how recalling one’s own anthropomorphic activities influences self-perceived femininity. Study 4 provides direct evidence using an Implicit Association Test. Finally, studies 5ab and 6 demonstrate the implications of the anthropomorphism–femininity association from the perspective of masculinity maintenance and gift-giving, respectively.

Keywords: anthropomorphism, femininity, masculinity, gender identity, identity signaling, implicit association

Introduction

Anthropomorphism, the phenomenon of attributing human characteristics or mental states to nonhuman objects (Epley, Waytz, and Cacioppo 2007), is pervasive in the consumption domain. Marketers use a variety of visual and verbal cues to anthropomorphize their brands and products (for a review, see MacInnis and Folkes 2017). For example, they create products with features resembling a human face or body (Aggarwal and McGill 2007; Hur, Koo, and Hofmann 2015; Kim and McGill 2011; Landwehr, McGill, and Herrmann 2011; Maeng and Aggarwal 2017; Touré-Tillery and McGill 2015), give brands human names (Eskine and Locander 2014; Waytz, Heafner, and Epley 2014), describe them in the first-person perspective (Aggarwal and McGill 2007; Hur et al. 2015; Puzakova, Kwak, and Rocereto 2013; Wan, Chen, and Jin 2017), and label them with a specific gender (Chandler and Schwarz 2010; Waytz et al. 2014). Similarly, consumers often anthropomorphize brands and products, perceiving them as living entities with humanlike features, minds, and personality and forming relationships with them that resemble interpersonal relationships (Aggarwal and McGill 2007, 2012; Chandler and Schwarz 2010; Hur et al. 2015; Kim and McGill 2011; Mourey, Olson, and Yoon 2017).

Given the prevalence of anthropomorphism, research has explored both its antecedents and consequences, examining why people anthropomorphize (e.g., the SEEK model; Epley et al. 2007) and what influences anthropomorphism may have on consumer behavior. For example, anthropomorphic brands and products tend to receive more positive evaluations from consumers (Aggarwal and McGill 2007; Delbaere, McQuarrie, and Phillips 2011; Kim and Kramer 2015), are judged as fairer and more trustworthy (Kwak, Puzakova, and Rocereto 2015; Waytz et al. 2014), and lead consumers to emphasize product appearance versus function (Wan et al. 2017). At the same time, however, they may become scapegoats for consumers' lack of self-control

(Hur et al. 2015) and be negatively evaluated when they “commit” transgressions (Puzakova et al. 2013).

Prior consumer research on anthropomorphism has thus examined anthropomorphic consumption mainly from the perspective of consumers’ perceptions of anthropomorphic brands and products. As such, research has largely overlooked how anthropomorphism may influence consumers’ perceptions of themselves and others. The current research fills this gap by examining how consumers make gender-identity inferences about those (including themselves) who purchase anthropomorphic products or engage in anthropomorphizing behaviors.

Consumers view their possessions as expressions, or extensions, of themselves and incorporate their possessions into their self-concept (Belk 1988). Consumers also use brands and products to enact their various social identities and prefer those that signal their identities to others (Kleine, Kleine, and Kernan 1993). In this research, we posit that anthropomorphic products signal expressions of a user’s gender identity and that consumers tend to make gender-identity inferences when observing anthropomorphic consumption activities. Specifically, we suggest that people high in femininity (vs. masculinity) are more likely to purchase anthropomorphic products and that those engaging in anthropomorphic consumption activities are perceived as more feminine (vs. masculine). In other words, we posit an anthropomorphism–femininity association.

In this research, we first empirically document the existence of a cognitive association between anthropomorphism and femininity using the Implicit Association Test (IAT; Greenwald, Nosek, and Banaji 2003). Second, we provide evidence for both causal directions implied by this association. Specifically, we show that women (vs. men) are more likely to engage in anthropomorphizing behaviors and purchase anthropomorphic products; in addition, we find that

people who consume anthropomorphic products and perform anthropomorphic activities are considered more feminine (vs. masculine). Importantly, we contend that these two predictions are applicable to the perceptions of the self and others. Third, we check the robustness of these effects from the angle of male consumers. If an association does exist between anthropomorphism and femininity, men should eschew anthropomorphism to protect their masculinity. Specifically, we suggest that if men's masculinity is threatened (affirmed), they should demonstrate decreased (increased) preference for anthropomorphic products.

Our research contributes to the literature on anthropomorphism, gender identity association, and implicit associations. First, to our best knowledge, this research is the first to examine the gender meanings associated with anthropomorphism. Our findings on the anthropomorphism–femininity association add to prior work on anthropomorphism by unveiling how anthropomorphism affects people's gender perceptions of themselves and others. Second, our research extends the emerging literature on gender meanings of consumer behavior. Prior research indicates that people assume gender meanings on the basis of green consumption (Brough et al. 2016), use of round versus precise numbers (Yan 2016), and consumption of meat products (Rozin et al. 2012); our work adds to this research stream by showing that consumers also attach gender meanings to anthropomorphic consumption. On a broader level, our work also contributes to the literature on implicit associations and lay beliefs held by consumers (e.g., the effort–quality association, Kruger et al. 2004; the unhealthy–tasty association, Raghunathan, Naylor, and Hoyer 2006; the healthy–expensive association, Haws, Reczek, and Sample 2017). Our research adds to this line of work by revealing the lay belief that anthropomorphism is feminine.

Theoretical background

The anthropomorphism–femininity association

Evidence gleaned from various streams of literature lends support to our proposed anthropomorphism–femininity association. First, research suggests that the two motivational determinants of anthropomorphism—effectance motivation (e.g., uncertainty avoidance, apparent predictability, desire for control) and sociality motivation (e.g., attachment style, social disconnection, chronic loneliness) (Epley et al. 2007)—are correlated with feminine traits and are characteristics of feminine cultures (Hofstede 1998). The effectance motivation refers to the desires to resolve uncertainty, acquire meaning, and feel efficacious, which enables people to interact effectively with their environment (White 1959). Epley et al. (2007) suggest that anthropomorphism meets this motivation by allowing people to apply the knowledge about the self in particular and human beings in general to understanding nonhuman objects, thus gaining a sense of predictability and controllability. For example, anthropomorphizing a sophisticated technology (e.g., autonomous vehicle) increases people’s confidence in the technology (Waytz et al. 2014). As risk taking and embracing uncertainty are common ways to demonstrate masculinity (Weaver, Vandello, and Bosson 2013), the act of anthropomorphizing nonhuman objects to reduce uncertainty is likely to be deemed feminine. Consistent with this notion, Waytz et al. (2010) reveal that women are more likely than men to perceive their computers as having minds of their own when they malfunction. Lending additional support, anthropomorphic behaviors are more prevalent in societies with high levels of femininity, such as Japan (Hofstede 1998; Nippaku 2015). For example, Japanese scientists have long been criticized by their American colleagues for using highly anthropomorphic descriptions of primates (de Waal 2003).

Sociality motivation, referring to the need to establish and maintain a sense of social connection with others (Baumeister and Leary 1995), is also related to femininity. Epley et al. (2007) suggest that this motivation compels people to search for social cues and sources of social connections in their environment, a tendency that facilitates anthropomorphizing nonhuman objects and finding humanlike characteristics and traits in them. Indeed, research shows that people who feel lonely, isolated, or lacking in social connections often cope by anthropomorphizing nonhuman agents (e.g., animals, gadgets), by strengthening beliefs in anthropomorphic religious agents, such as God (Epley et al. 2008), or by choosing anthropomorphic (vs. nonanthropomorphic) brands (Chen, Wan, and Levy 2017). Consistently, reminding people about close social ties lowers their anthropomorphizing tendency (Bartz, Tchalova, and Fenerci 2016) and interacting with anthropomorphic products reduces people's need to engage in social connection (Mourey et al. 2017). Prior research has demonstrated that an emphasis on social relations or interdependency (vs. independency) is conceptually associated with the concept of femininity (vs. masculinity) (Luna, Ringberg, and Peracchio 2008). It is well-established that women are more interdependent and socially oriented than men (Cross and Madson 1997), as they tend to construe themselves in relation to others (Lyons 1983), pay close attention to others, and consider others' perspectives (Pratt et al. 1990). As need for affiliation (Williams, Satterwhite, and Best 1999) is a strong indicator of femininity and being dependent on others is cognitively associated with femininity (Luna et al. 2008), anthropomorphizing to establish and maintain social connections signals femininity.

Another reason anthropomorphism and femininity are closely correlated is that anthropomorphism imbues nonhuman objects with feelings (Ahn, Kim, and Aggarwal 2014), and creating and responding to emotional cues is a hallmark of femininity. Specifically, research

across various domains suggests that anthropomorphizing objects makes people care about, empathize with, and form emotional attachments to those objects, and anthropomorphic products are often treated as moral agents that deserve care and concern from humans (Ahn et al. 2014). For example, anthropomorphic spokescharacters of brands trigger more emotional responses among consumers (Callcott and Phillips 1996). Similarly, brand anthropomorphism in advertising elicits more emotional responses to the brand, which increases brand affection (Delbaere et al. 2011). When prompted to anthropomorphize their cars, people tend to focus on their cars' "warm" features while ignoring agentic features such as quality; this emphasis on emotional rather than functional utilities consequently makes consumers less willing to replace their cars (Chandler and Schwarz 2010). In the context of prosocial behavior, anthropomorphizing social causes activates people's feelings of anticipatory guilt, which makes them more likely to engage in those causes (Ahn et al. 2014). Taken together, endowing nonhuman agents with feelings brings out consumers' emotional side, and being relatively emotional is a prototypical feminine trait (Huddy and Terkildsen 1993).

The Current Research

According to our theorizing, we contend that an association exists between anthropomorphism and femininity. We empirically measure the strength of this association using an IAT (in study 4). We also provide empirical evidence for two specific predictions based on the bidirectional relationships implied in the association between anthropomorphism and femininity. First, we believe that a feminine (vs. masculine) individual is more likely to engage in anthropomorphic activities and purchase anthropomorphic products. Second, we posit that individuals consuming anthropomorphic products and engaging in anthropomorphizing behaviors are considered more feminine (vs. masculine). Moreover, we argue that these

predictions apply to both self-perceptions and perceptions of others. We assess these two predictions in the pilot study, studies 1–3, and study 6.

In addition, if anthropomorphism is associated with femininity and consumption has an identity-signaling function, we expect that anthropomorphic consumption should pose a threat to men’s masculinity. Across cultures, manhood is conceptualized as precarious, difficult to achieve, but easy to lose (Bosson and Michniewicz 2013; Bosson and Vandello 2011; Vandello et al. 2008). Gender role theories have established that masculinity can only be achieved by diverging from femininity (Bosson and Michniewicz 2013) and that men who exhibit femalelike characteristics will likely be punished. For example, when demonstrating gender inconsistency, boys tend to be more negatively evaluated than girls (Levy et al. 1995) and receive more criticism from peers (Fagot 1977). As grown-ups, men are punished with a significantly lower income level for “being a nice guy” in the workplace because masculinity is associated with disagreeableness (Judge, Livingston, and Hurst 2012). Therefore, men generally follow the *antifemininity mandate*, a rule stating that men must avoid feminine behaviors, tendencies, and preferences (Thompson, Grisanti, and Pleck 1985). By eschewing femininity, men protect their easy-to-lose manhood (Bosson and Michniewicz 2013). However, when a man’s gender identity is assured, feminine behavior is more acceptable (Brough et al. 2016). Thus, according to the anthropomorphism–femininity association, we expect that if men’s masculinity is threatened (affirmed), they should demonstrate decreased (increased) preference for anthropomorphic products. We test this hypothesis in studies 5a (masculinity threatened) and 5b (masculinity affirmed).

Overview of Studies

We conduct a pilot study and seven other studies to test the anthropomorphism–femininity association. As initial evidence of the association, our pilot study documents the disparity of anthropomorphism between men and women by showing that women purchase more anthropomorphic products and perform more anthropomorphizing activities than men and that self-perception of femininity positively correlates with anthropomorphism (as manifested in both anthropomorphizing tendency and anthropomorphic product consumption). Study 1 manipulates gender identity (femininity vs. masculinity) and confirms that a feminine (vs. masculine) person is deemed more likely to purchase anthropomorphic products. Study 2 tests the reversed logic by demonstrating that a person who owns anthropomorphic (vs. nonanthropomorphic) products is more likely to be judged as a woman. Whereas studies 1 and 2 focus on social judgments, study 3 investigates the effect of consumers’ own anthropomorphizing behavior on their self-perceived femininity and shows that simply recalling an anthropomorphizing behavior increases consumers’ self-perception of femininity. Study 4 provides more direct evidence for the anthropomorphism–femininity association with consistent findings from an IAT. Studies 5a and 5b investigate the anthropomorphism–femininity association from the perspective of masculinity maintenance. Specifically, study 5a demonstrates that threatening masculinity decreases men’s purchase likelihood of an anthropomorphic product. Conversely, study 5b shows that affirming men’s masculinity increases men’s purchase likelihood of an anthropomorphic product, providing marketers a strategy to boost men’s choice of anthropomorphic products. Study 6 applies the anthropomorphism–femininity association to the gift-giving domain by showing that anthropomorphic (nonanthropomorphic) products are more likely to be purchased as gifts when the gift recipient is a woman (man).

Pilot study: gender identity and anthropomorphism

Because no prior work has documented the association between anthropomorphism and femininity, we conducted a pilot test with 51 participants (56.6% female, mean age = 38.62) recruited from Amazon Mechanical Turk (MTurk) to examine the correlation between self-perceived femininity and anthropomorphism. Participants were asked to complete several psychological instruments. Using five-point scales (1 = not at all; 5 = perfectly), participants rated their self-perceived femininity (feminine, gentle, and sensitive; Cronbach's $\alpha = .80$) and masculinity (masculine, macho, and aggressive; Cronbach's $\alpha = .74$; Brough et al. 2016). Next, they completed two measures of anthropomorphism. The first measure assessed people's general anthropomorphic tendency. Specifically, after providing the definition of anthropomorphism (i.e., "Anthropomorphism is the attribution of uniquely human characteristics and features to nonhuman creatures and beings, natural and supernatural phenomena, material states or objects, and even abstract concepts") and examples of anthropomorphism (e.g., "Children might imagine and treat a favorite toy as a friend"), participants responded to the question, "Have you ever imagined and treated nonhuman objects as human?" (1 = never; 7 = very often). The second anthropomorphism measure checked how frequently people purchased anthropomorphic products. After being told that certain products in the marketplace have human features (e.g., a coffee mug with two eyes and a mouth, cookies that resemble human faces), participants answered the question, "Have you ever bought such kind of products?" (1 = never; 7 = very often). Finally, we collected participants' demographic information, including their gender, which served as an index for femininity (in addition to the measured self-perceived femininity).

Our analyses showed that female participants provided significantly higher ratings for both anthropomorphism measures (anthropomorphic tendency and purchase of anthropomorphic products). Specifically, female participants reported a greater tendency to anthropomorphize in general ($M_{\text{female}} = 4.75$, $SD = 1.90$ vs. $M_{\text{male}} = 3.70$, $SD = 1.82$; $F(1, 49) = 4.04$, $p = .05$) and to purchase anthropomorphic products ($M_{\text{female}} = 4.21$, $SD = 1.73$ vs. $M_{\text{male}} = 2.96$, $SD = 1.72$; $F(1, 49) = 6.72$, $p = .01$) than male participants.

Consistently, our correlational analyses found that participants' self-perceived femininity correlated significantly with both anthropomorphism measures. Specifically, participants who perceived themselves as more (less) feminine reported a greater (lesser) tendency to anthropomorphize objects ($r(51) = .27$, $p = .05$) and to purchase anthropomorphic products ($r(51) = .31$, $p = .03$). However, neither the correlation between masculinity and anthropomorphic tendency ($r(51) = -.18$, $p = .206$) nor the correlation between masculinity and purchase of anthropomorphic products ($r(51) = -.18$, $p = .209$) was significant.

The pilot study provided preliminary evidence for the proposed cognitive association between anthropomorphism and femininity. In addition, the finding that anthropomorphism significantly correlated with self-perceived femininity but not masculinity indicated that femininity and masculinity are not necessarily the opposite ends of a single spectrum of gender identity. This is consistent with prior research suggesting that femininity and masculinity represent two independent dimensions and that scoring high on one dimension does not necessarily mean scoring low on the other (Hoffman and Borders 2001). Whereas the pilot study provides initial evidence for the anthropomorphism–femininity association, the evidence obtained was correlational (i.e., based on measured, rather than manipulated, femininity). In

study 1, we manipulate femininity to provide further evidence for the proposed anthropomorphism–femininity association.

Study 1: “she” consumes anthropomorphic products

Method

Study 1 used a two-cell (gender identity: femininity vs. masculinity) between-subjects design. Eighty-seven undergraduate students (39.1% female; mean age = 21.02) from a large public university participated in the study in exchange for partial course credit. Participants were randomly assigned to one of the two conditions. Under the cover story that the study’s purpose was to understand how people form impressions of others based on limited information, participants read a brief description about a student named Jaiden. In the femininity condition, Jaiden was depicted as follows: “Jaiden is relationship oriented and always puts quality of life and other people first. Jaiden holds on to the motto: work in order to live. Jaiden also believes that conflicts should be solved through negotiation.” In the masculinity condition, Jaiden was described as follows: “Jaiden is ego oriented and always puts money first. Jaiden holds on to the motto: live in order to work. Jaiden also believes that conflicts should be solved through force.” We adapted these descriptions from the femininity/masculinity trait scales (Hofstede 2001).

Next, participants were told to imagine that Jaiden had just moved and was considering purchasing the following household items: dustpan, mug, and speaker (see figure 1). Participants were presented with all three household items. Specifically, the first two items (dustpan and mug) featured anthropomorphic designs, and the presentation order between them was random. For each of these two items, we asked participants to rate how likely Jaiden would be to buy it (1 =

very much unlikely; 7 = very much likely). For the third item (speaker), we presented both anthropomorphic (A) and nonanthropomorphic (B) designs side by side. Participants indicated which speaker Jaiden would prefer (1 = definitely A; 7 = definitely B).

Figure 3. 1. Study 1 stimuli



Then, participants responded to two questions checking our manipulations of femininity/masculinity and anthropomorphic/nonanthropomorphic design (of the speaker). Specifically, the first question asked about Jaiden’s gender identity: “Based on the description of Jaiden, how would you consider Jaiden?” (1 = extremely feminine; 7 = extremely masculine). The second question, adapted from (Hur et al. 2015), assessed the extent to which each speaker design reminded participants of humanlike qualities (1 = not at all; 7 = very much). Finally, participants reported their demographic information.

Results and Discussion

Manipulation Checks. We conducted a two-way analysis of variance (ANOVA) on participants’ inferences of Jaiden’s gender identity, with the gender identity manipulation and participants’ gender as independent variables. The results yielded a significant main effect of gender identity manipulation ($F(1, 83) = 37.19, p = .00$), such that participants in the femininity condition ($M = 4.18, SD = 1.08$) perceived Jaiden as more feminine than those in the masculinity condition ($M = 2.58, SD = 1.24$). Neither the main effect of participant gender ($F(1, 83) = .68, p$

= .41) nor the interaction effect ($F(1, 83) = .08, p = .79$) was significant. Therefore, our manipulation of gender identity was successful.

To check our manipulation of product (speaker) anthropomorphism, a one-way repeated measures ANOVA conducted on the anthropomorphism scores of the two speakers showed that participants perceived the anthropomorphic speaker ($M = 4.31, SD = 1.62$) as more humanlike than the nonanthropomorphic speaker ($M = 3.17, SD = 1.59; F(1, 86) = 30.82, p = .00$).

Therefore, the manipulation of speaker anthropomorphism was also successful.

Purchase Likelihood of (Anthropomorphic) Dustpan. We conducted a 2 (gender identity: femininity vs. masculinity) \times 2 (participant gender: female vs. male) ANOVA on the purchase likelihood of the dustpan. Consistent with our expectations, only the main effect of gender identity manipulation ($F(1, 83) = 36.32, p = .00$) was significant, such that participants in the femininity condition ($M = 4.30, SD = 1.55$) indicated that Jaiden was more likely to purchase the dustpan than those in the masculinity condition ($M = 2.30, SD = 1.40$). Neither the main effect of participant gender ($F(1, 83) = .30, p = .86$) nor the interaction effect ($F(1, 83) = .00, p = .97$) was significant.

Purchase Likelihood of (Anthropomorphic) Mug. The same ANOVA conducted on the purchase likelihood of the mug again produced a significant main effect of gender identity manipulation ($F(1, 83) = 18.71, p = .00$), such that participants in the femininity condition ($M = 3.98, SD = 1.53$) believed that Jaiden was more likely to purchase the mug than those in the masculinity condition ($M = 2.33, SD = 1.72$). No other effects were significant ($F_s < 1.73, p_s > .19$).

Preference for Anthropomorphic vs. Nonanthropomorphic Speaker. We reverse-coded preference for the anthropomorphic (A) versus nonanthropomorphic (B) speaker so that higher

scores indicated higher preferences for the anthropomorphic version of the speaker. We subjected the reverse-coded scores to the same 2×2 ANOVA as in the previous analyses, which again revealed a significant main effect of gender identity manipulation ($F(1, 83) = 3.87, p = .05$); participants in the femininity condition ($M = 4.16, SD = 1.38$) reported that Jaiden was more attracted to the anthropomorphic speaker than those in the masculinity condition ($M = 3.55, SD = 1.44$). No other effects were significant ($F_s < .26, p_s > .61$).

Study 1 manipulated gender identity (femininity vs. masculinity) and showed that participants believed that the feminine Jaiden was more likely to purchase anthropomorphic products (dustpan and mug) than the masculine Jaiden. In addition, femininity (vs. masculinity) led to a higher preference for the anthropomorphic product (speaker). These results provide support for the proposed cognitive association between anthropomorphism and femininity.

Study 1 used three mundane, gender-neutral consumer products as stimuli (dustpan, mug, and speaker). Throughout this research, we took care to choose stimuli that minimized potential confounds. For example, if an anthropomorphic product looks feminine, this visually feminine appearance might drive our results. To address this potential confound, we chose stimuli that did not appear feminine (and even looked masculine, as in the cases of the mug and speaker, as the former had a mustache and the latter featured a square face). Importantly, note that the pilot study and study 3 did not use any visual stimuli and thus precluded any potential confounds induced by the visual aspects of our stimuli.

Study 2: anthropomorphic products are consumed by “her”

Study 1's results provide support for the association between anthropomorphism and femininity by showing that people tend to believe that a consumer high in femininity prefers anthropomorphic products. We designed study 2 to provide further evidence for the anthropomorphism–femininity association by examining the reverse direction of the relationship. That is, if this association exists, consumers who prefer anthropomorphic products should be judged as more feminine.

Method

Study 2 featured a two-cell (product anthropomorphism: anthropomorphic vs. nonanthropomorphic) between-subjects design. One hundred sixteen undergraduate students (31.9% female; mean age = 20.84) from a large public university participated in the study in exchange for partial course credit. Participants were randomly assigned to one of the two conditions and, similar to study 1, told that the study aimed to understand how people form impressions of others based on limited information. Next, participants viewed images of two products (dustpan and mug) and read that these products belonged to a student of their age. Participants in the anthropomorphic (nonanthropomorphic) condition were exposed to the anthropomorphic (nonanthropomorphic) version of the products in which the facial features were present (absent) in the design of the dustpan and mug. Following the manipulation, participants indicated whether the owner of the products was a female or male student. Then, participants responded to the same manipulation check questions as in study 1: “To what extent does the dustpan/mug remind you of humanlike qualities?” (1 = not at all; 7 = very much). Finally, participants reported their demographics.

Results and Discussion

Manipulation Checks. The manipulation of anthropomorphism was successful for both the dustpan and mug. The one-way ANOVAs performed on the manipulation check measures showed that participants perceived the anthropomorphic (vs. nonanthropomorphic) version of the products as having more humanlike qualities (dustpan: $M_{\text{anthropomorphic}} = 4.66$, $SD = 1.58$ vs. $M_{\text{nonanthropomorphic}} = 2.79$, $SD = 1.60$; $F(1, 114) = 40.10$, $p = .00$; mug: $M_{\text{anthropomorphic}} = 4.66$, $SD = 1.45$ vs. $M_{\text{nonanthropomorphic}} = 2.72$, $SD = 1.51$; $F(1, 114) = 50.01$, $p = .00$).

Gender Inference. We conducted logistic regression by regressing participants' inferences of the student's gender on product anthropomorphism. The analysis revealed a significant main effect of product anthropomorphism (Wald $\chi^2 = 31.74$, $p = .00$). Of the participants assigned to the anthropomorphic condition, 91.5% judged the owner of the products to be a woman, while only 33.3% of those in the nonanthropomorphic condition did so.

Study 1 results suggested that female (vs. male) consumers are more likely to be perceived as purchasers of anthropomorphic products; study 2 results indicate that consumers who own anthropomorphic products are more likely to be judged as a woman (vs. man). Thus, these two studies, taken together, provide convergent evidence for the proposed anthropomorphism–femininity association.

Study 3: recalling anthropomorphizing experiences enhances self-perceived femininity

Studies 1 and 2 examined the anthropomorphism–femininity association from both directions of the relationship in social judgment contexts. In particular, participants in study 1 were informed of a consumer's gender identity and then judged this consumer's preference for anthropomorphic products. Conversely, participants in study 2 observed a consumer's preference

for anthropomorphic products and then guessed that consumer's gender. In study 3, we intended to augment the robustness of our findings by extending beyond the social judgment context and investigating the impact of one's own anthropomorphism behavior on self-perceived femininity. Another purpose of study 3 was to manipulate anthropomorphism by recalling past anthropomorphizing experiences, a method that does not involve using visual anthropomorphic stimuli, thereby ruling out any potential confounds induced by the visual aspects of stimuli.

Method

Study 3 employed a two-cell (recalled experience: anthropomorphizing vs. objectifying) between-subjects design. Ninety-eight MTurk workers (46.9% female, mean age = 35.90) participated in the study in exchange for monetary compensation and were randomly assigned to one of the two conditions.

Participants were told that the study consisted of two unrelated tasks. They were first exposed to an experience recall task, which served as our anthropomorphism manipulation. In the anthropomorphizing (objectifying) condition, participants were asked to recall and describe an experience in which they had anthropomorphized an object (objectified a person)—for example, treated a brand or product as a person (treated someone as an object).

Next, participants were directed to an ostensibly different task in which they answered a few questions about themselves on five-point scales (1 = not at all; 5 = perfectly). These randomly presented questions included six measures that assessed gender identity traits (the same measures as those in the pilot study; femininity: feminine, gentle, and sensitive; Cronbach's $\alpha = .65$; masculinity: masculine, macho, and aggressive; Cronbach's $\alpha = .69$) and three filler traits (athletic, attractive, and curious). Finally, participants reported their demographics.

Results and Discussion

Self-Perceived Femininity. We conducted a two-way ANOVA on the self-perceived femininity scores, with recalled experience (anthropomorphizing vs. objectifying) and participant gender as the independent variables. Consistent with our expectations, a significant main effect of recalled experience emerged ($F(1, 94) = 6.41, p = .01$), such that participants who recalled an anthropomorphizing experience ($M = 3.21, SD = 1.00$) reported feeling more feminine than those who recalled an objectifying experience ($M = 2.94, SD = .89$). In addition, gender had a significant main effect ($F(1, 94) = 41.59, p = .00$), such that women ($M = 3.61, SD = .92$) perceived themselves as more feminine than men ($M = 2.61, SD = .71$). The interaction effect was not significant ($F(1, 94) = 1.44, p = .23$), indicating that both female and male participants demonstrated similar patterns in terms of the effect of recalled experience on self-perceived femininity.

Self-Perceived Masculinity. We performed the same ANOVA on self-perceived masculinity. Not surprisingly, the main effect of gender was significant ($F(1, 94) = 100.94, p = .00$), such that male participants ($M = 2.87, SD = .71$) reported feeling more masculine than female participants ($M = 1.51, SD = .59$). However, there was no main effect of recalled experience ($F(1, 94) = .26, p = .61$). The interaction effect was also not significant ($F(1, 94) = .25, p = .62$).

By showing that simply recalling an anthropomorphizing experience increases self-perceived femininity for both men and women, study 3 provides further evidence for the anthropomorphism–femininity association. Moreover, the finding that the manipulation did not affect participants' self-perception of masculinity indicated that there is no cognitive association between anthropomorphism and masculinity. This finding thus replicates the pilot study and

suggests that femininity and masculinity are not necessarily opposite ends of a single spectrum of gender identity. As mentioned previously, neither the pilot study nor study 3 involved using visual designs of products. Taken together, these two studies provide compelling evidence that the observed effect was not driven by the visual aspects of our stimuli.

Study 4: IAT

Thus far, the pilot study and studies 1–3 have offered strong support for the association between anthropomorphism and femininity. The purpose of study 4 was to provide more conclusive evidence for this association using the IAT (Greenwald et al. 2003), a reaction time measure well-established to gauge the strength of association between different concepts. However, because the results from both the pilot study and study 3 suggested that femininity and masculinity are not necessarily opposite concepts, in this study we used the Single Category Implicit Association Test (SC-IAT; Karpinski and Steinman 2006), which was developed to assess evaluative associations with a single target concept when the contrasting concept is not obvious. Specifically, by treating femininity and masculinity as two independent concepts in two separate SC-IATs, we examined the extent to which anthropomorphism is cognitively associated with femininity and masculinity, respectively.

The SC-IAT, and IAT in general, tests the strength of association between different concepts by measuring the degree to which pairing them facilitates categorization of stimuli. The underlying rationale is that when asked to categorize stimuli, participants will respond more quickly when paired concepts match (vs. do not match) their subjective mental representation. For example, if participants cognitively represent anthropomorphic products as feminine,

response latencies should be shorter when the label “female” is paired with the compatible label “anthropomorphic” rather than the incompatible label “nonanthropomorphic.”

For the feminine SC-IAT, we used eight adjectives suggestive of feminine qualities (e.g., “feminine,” “gentle,” “sensitive”; Brough et al. 2016) to represent the concept of femininity. For the masculine SC-IAT, we used eight adjectives indicative of masculine qualities (e.g., “masculine,” “macho,” “aggressive”) to represent the concept of masculinity. For both SC-IATs, we selected eight anthropomorphically designed products (similar to those used in study 1) to represent the concept of anthropomorphism, and we removed humanlike features from these anthropomorphic designs to create stimuli that should be categorized as nonanthropomorphic.

Method

The study was presented to participants (undergraduate students) as a categorization task. They were told that their accuracy and speed in completing the task were both important. As the task involved categorizing products as anthropomorphic or nonanthropomorphic, we explained that anthropomorphic products are those designed by using some humanlike features (e.g., eyes, smile) and nonanthropomorphic products are devoid of humanlike features in their design.

Participants were randomly assigned to complete either the feminine SC-IAT (designed to test different combinations of femininity and anthropomorphism) or the masculine SC-IAT (designed to test different combinations of masculinity and anthropomorphism). Each participant completed four blocks of trials. Blocks 1 and 3 each contained 24 practice trials. Blocks 2 and 4 each consisted of 72 test trials. For half the participants, compatible blocks (one practice block and one test block) preceded incompatible blocks. For the remaining half, incompatible blocks (one practice block and one test block) preceded compatible blocks. At the beginning of each

block, instructions were provided regarding how stimuli were assigned to two keys (A and L) on the keyboard (see tables 1 and 2 for details).

Table 3. 1. Key assignments in feminine SC-IAT

Block	Trials	Function	Condition A (Compatible blocks first)		Condition B (Incompatible blocks first)	
			Item Assigned To Left-Key (A)	Item Assigned To Right-Key (L)	Item Assigned To Left-Key (A)	Item Assigned To Right-Key (L)
1	24	Practice	Anthropomorphic + Female	Nonanthropomorphic	Anthropomorphic	Nonanthropomorphic + Female
2	72	Test	Anthropomorphic + Female	Nonanthropomorphic	Anthropomorphic	Nonanthropomorphic + Female
3	24	Practice	Anthropomorphic	Nonanthropomorphic + Female	Anthropomorphic + Female	Nonanthropomorphic
4	72	Test	Anthropomorphic	Nonanthropomorphic + Female	Anthropomorphic + Female	Nonanthropomorphic

Table 3. 2. Key assignments in masculine SC-IAT

Block	Trials	Function	Condition A (Compatible blocks first)		Condition B (Incompatible blocks first)	
			Item Assigned To Left-Key (A)	Item Assigned To Right-Key (L)	Item Assigned To Left-Key (A)	Item Assigned To Right-Key (L)
1	24	Practice	Nonanthropomorphic + Male	Anthropomorphic	Nonanthropomorphic	Anthropomorphic + Male
2	72	Test	Nonanthropomorphic + Male	Anthropomorphic	Nonanthropomorphic	Anthropomorphic + Male
3	24	Practice	Nonanthropomorphic	Anthropomorphic + Male	Nonanthropomorphic + Male	Anthropomorphic
4	72	Test	Nonanthropomorphic	Anthropomorphic + Male	Nonanthropomorphic + Male	Anthropomorphic

Specifically, for participants assigned to the feminine SC-IAT/*compatible block first* condition, the first block was a compatible block containing 24 practice trials. The stimulus (either a feminine adjective or a product picture) was displayed in the center of the screen. The label at the top-left of the screen was “Anthropomorphic or Female” and the label at the top-right of the screen was “Nonanthropomorphic.” In these trials, participants pressed the A key to categorize products as anthropomorphic and adjectives as female and pressed the L key to categorize products as nonanthropomorphic. Block 2 was a compatible block containing 72 test

trials in which participants were tested on the same pairings as in Block 1. Block 3 was an incompatible block consisting of 24 practice trials for which participants categorized stimuli using the reverse response pattern as in Blocks 1 and 2. Block 4 was an incompatible block consisting of 72 test trials for which participants were tested on the same pairings as in Block 3. Table 1 summarizes these tasks.

For participants assigned to the feminine SC-IAT/*incompatible block first* condition, the procedure was identical except that the first two blocks were incompatible blocks (see table 1). For participants assigned to the masculine SC-IAT, the procedure was also the same except that the words used were masculine adjectives (see table 2). After the SC-IAT, participants provided their demographic information.

Results and Discussion

We analyzed the SC-IAT responses using the D-score algorithm with 400ms incorrect response penalties, as recommended by Karpinski and Steinman (2006). In the feminine SC-IAT, we identified blocks in which anthropomorphic and female were assigned the same response key as compatible (nonanthropomorphic and female as incompatible). In the masculine SC-IAT, we identified blocks in which nonanthropomorphic and male were assigned the same response key as compatible (anthropomorphic and male as incompatible). Higher D-scores indicate greater facility in categorizing stimuli during compatible than incompatible blocks.

For the feminine SC-IAT (N = 76, 35 women), the mean D-score was .13 (SD = .53), which was significantly different from 0 ($t(75) = 2.12, p = .038, d = .49$). Consistent with our prediction that anthropomorphism and femininity are cognitively associated, this positive D-score indicates that participants were quicker to categorize stimuli in the compatible than incompatible block. There was no difference in D-score by participant gender ($F(1, 74) = .69, p$

= .409), suggesting that both men and women cognitively associate the concepts of anthropomorphism and femininity.

For the masculine SC-IAT (N = 74, 38 women), the mean IAT D-score was $-.05$ (SD = $.51$), which was not significantly different from 0 ($t(73) = -.83, p = .411, d = .19$). Moreover, there was no difference in this D-score by participant gender ($F(1, 72) = 2.48, p = .120$). These results indicate a lack of a cognitive association between anthropomorphism and masculinity.

Study 4, using IAT, provided the most direct evidence consistent with our theorizing that a cognitive association exists, among both men and women, between the concepts of anthropomorphism and femininity. The results did not support the association between anthropomorphism and masculinity. Taken together, these findings replicated the pilot study and study 3 in confirming that femininity and masculinity are two independent concepts rather than polar ends of a single continuum.

Study 5a: identity threat

Study 5 took a different approach from the previous studies by checking the robustness of the anthropomorphism–femininity association from the perspective of men. If anthropomorphism is associated with femininity, male consumers should eschew anthropomorphism to protect their manhood. Study 5a (5b) aimed to test the hypothesis that if men’s masculinity is threatened (affirmed), they should demonstrate decreased (increased) preference for anthropomorphic products.

Method

Eighty-one male students (mean age = 20.88) from a large public university participated in the study in exchange for partial course credit. They were randomly assigned to a two-cell (identity threat vs. control) between-subjects design.

Participants were informed that the study consisted of three unrelated parts conducted by three separate teams of researchers, respectively. In the first part, following an empirical precedent to manipulate gender-identity threat (Brough et al. 2016), participants were asked to write about their activities on the previous day and were informed that their writing would be analyzed in real time by a proprietary algorithm that had been proven to provide accurate writing assessments. In the identity threat condition, participants were told that the algorithm indicated that they wrote more like a woman. In the control condition, no feedback was given to participants. Afterward, participants were directed to an ostensibly unrelated study, which was disguised as a study to understand consumer decision making. Specifically, participants were asked to imagine that they were considering buying a speaker and needed to choose between two options. Then, they were presented with the pair of speakers used in study 1 and asked to indicate their preference between the anthropomorphic (A) and nonanthropomorphic (B) options (1 = definitely A; 7 = definitely B).

Results and Discussion

We reverse-coded preference between anthropomorphic (A) and nonanthropomorphic (B) speakers so that higher scores indicated higher preferences for the anthropomorphic speaker. A one-way ANOVA conducted on the reverse-coded preference ratings revealed a significant main effect of gender identity threat ($F(1, 79) = 6.57, p = .01$), such that participants in the identity threat condition ($M = 3.57, SD = 1.93$) reported significantly lower preferences for the anthropomorphic speaker than participants in the control condition ($M = 4.57, SD = 1.48$).

Study 5a added further evidence to the anthropomorphism–femininity association by demonstrating that men preferred a nonanthropomorphic to an anthropomorphic alternative when their gender identity was threatened. Consistent with our theorizing that consumption of anthropomorphic products is cognitively associated with femininity, this result suggests that men dealing with gender identity threats refuse anthropomorphic products, as they need to eschew femininity to protect their manhood. Extending this rationale, in study 5b we examined whether gender identity affirmation could increase men’s preference for anthropomorphic products.

Study 5b: identity affirmation

Whereas study 5a showed that gender identity threat decreased men’s preference for anthropomorphic products, study 5b aimed to test whether assuring men of their masculinity could increase their preference for anthropomorphic products. Specifically, participants completed a similar writing task to that used in study 5a. We expected that if a male participant was assured that he writes like a man, his masculinity would be affirmed, and he would be more inclined to purchase an anthropomorphic product than those who received no masculinity affirmation.

Method

Eight-four male students (mean age = 20.81) from a large public university participated in the study in exchange for partial course credit. Participants were randomly assigned to a two-cell (identity affirmation vs. control) between-subjects design.

The procedure was similar to that of study 5a: participants first wrote a short essay about what they did on the previous day and were informed that their writing would be analyzed in real time by an algorithm. Participants in the identity affirmation condition were told that the algorithm indicated that they wrote more like a man (Brough et al. 2016). Participants in the control condition did not receive any feedback about their writing.

Then, participants were directed to an ostensibly unrelated study and told that its purpose was to understand how consumers make consumption-related decisions. Specifically, participants were shown a trash bin featuring an anthropomorphic design (with two eyes and a mouth, resembling a human face) and asked to indicate their purchase likelihood (1 = definitely wouldn't buy it; 7 = definitely would buy it).

Results and Discussion

A one-way ANOVA performed on purchase likelihood showed that participants whose masculinity was affirmed ($M = 3.02$, $SD = 2.28$) were significantly more likely to purchase the anthropomorphic trash bin than those in the control condition ($M = 2.16$, $SD = 1.62$; $F(1, 82) = 4.03$, $p = .048$). Therefore, our hypothesis was supported.

By showing that masculinity affirmation increases men's purchase likelihood of anthropomorphic products, study 5b provided further evidence for the association between anthropomorphism and femininity. More important, this finding offers marketers a strategy to combat male consumers' general tendency to reject anthropomorphic products: affirming their male identity.

Study 6: anthropomorphic product as a gift

The objective of study 6 was twofold. First, study 6 investigated the marketing implications of the anthropomorphism–femininity association by examining whether this association can influence consumers’ purchase likelihood of anthropomorphic products. Similar to studies 1 and 2, which adopted a social judgment approach, in this study we used a gift-giving scenario because gift givers need to make gift purchase decisions based on their prediction of the recipients’ evaluations of the gift. Given our theorizing on the anthropomorphism–femininity association, we expected that participants would be more likely to buy an anthropomorphic (nonanthropomorphic) product as a gift for a female (male) recipient.

The second purpose of the study was to explore the mediator between the anthropomorphism–femininity association and product preference. If people truly automatically associate anthropomorphism with femininity, they will consider anthropomorphic products more suitable for female consumers. In other words, this feeling of suitability (or conceptual fluency; Lee and Labroo 2004; Torelli and Ahluwalia 2012; Yan 2016) should mediate the effect of anthropomorphism on purchase likelihood of an anthropomorphic product as a gift for a female recipient.

Method

Two hundred twelve MTurk workers (53.3% female, mean age = 39.26) completed the study for monetary compensation. They were randomly assigned to a 2 (product anthropomorphism: anthropomorphic vs. nonanthropomorphic) \times 2 (recipient gender: female vs. male) between-subjects design.

As part of the cover story, participants were asked to imagine that Christmas was coming and they needed to buy some gifts for their friends and family. Next, they were asked to imagine

that they came across a coffee mug and considered buying it as a gift for a friend. Depending on the assigned condition, participants were exposed to either an anthropomorphic or a nonanthropomorphic mug (we manipulated product anthropomorphism through both visual and verbal cues; see figure 2) and told that the friend they were buying the mug for was either female or male.

Figure 3. 2. Study 6 stimuli

Nonanthropomorphic Products



Morning Mug

When you give it cold water, it appears in black color

When you give it hot water, it appears in white color

It can hold 12 ounce water

It's a good choice for coffee, tea and hot chocolate.

Anthropomorphic Products



"Hi, I'm a morning mug"

When you give me cold water, I fall asleep

When you give me hot water, I wake up

I can hold 12 ounce water

I'm a good choice for coffee, tea and hot chocolate."

Then, participants reported their purchase likelihood: "How likely would you be to purchase this mug as a gift to your female/male friend?" (1 = not at all; 7 = very much). They also answered a question assessing the perceived suitability of the mug as a gift for their friend: "How suitable do you think this mug is for your female/male friend?" (1 = not at all; 7 = very much). After that, participants completed a manipulation check question: "To what extent does

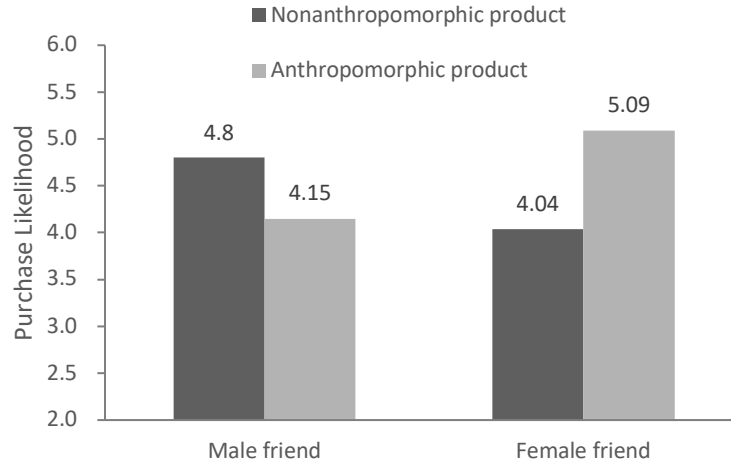
the coffee mug you just reviewed remind you of humanlike qualities?" (1 = not at all; 7 = very much). Finally, they provided demographic information.

Results and Discussion

Manipulation Check. A 2 (product anthropomorphism) \times 2 (recipient gender) ANOVA performed on the manipulation check revealed a main effect of the anthropomorphism manipulation ($F(1, 208) = 39.38, p = .00$), such that participants perceived the anthropomorphic coffee mug ($M = 4.80, SD = 1.64$) as possessing more humanlike qualities than the nonanthropomorphic coffee mug ($M = 3.23, SD = 1.96$). No other effects were significant ($F_s < 1.31, p_s > .25$). Therefore, our manipulation of product anthropomorphism was successful.

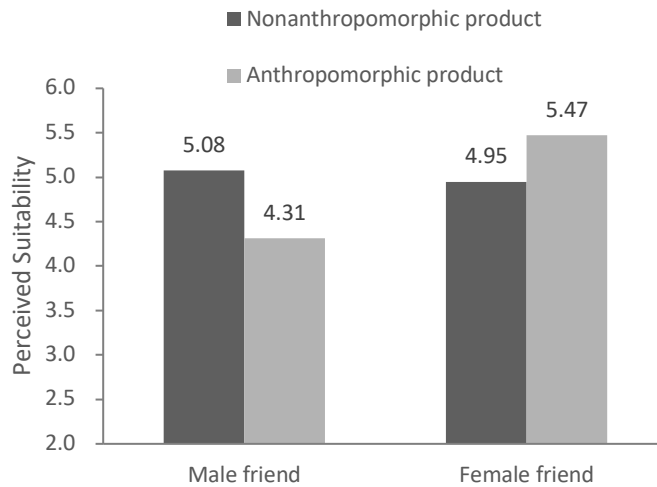
Purchase Likelihood. The same ANOVA conducted on purchase likelihood revealed a significant product anthropomorphism \times recipient gender interaction ($F(1, 208) = 15.95, p = .00$; see figure 3). Neither main effect was significant ($F_s < 1$). Planned contrasts indicated that when the gift recipient was a male friend, participants reported a significantly lower purchase likelihood for the anthropomorphic product ($M = 4.15, SD = 1.66$) than for the nonanthropomorphic product ($M = 4.80, SD = 1.34; F(1, 208) = 4.49, p = .04$). By contrast, when the gift recipient was a female friend, participants reported a significantly higher purchase likelihood for the anthropomorphic product ($M = 5.09, SD = 1.37$) than for the nonanthropomorphic product ($M = 4.04, SD = 1.77; F(1, 208) = 12.61, p = .00$).

Figure 3. 3. The effects of product anthropomorphism and recipient gender on purchase likelihood



Perceived Suitability. The same ANOVA performed on perceived suitability again revealed an interaction effect between product anthropomorphism and recipient gender ($F(1, 208) = 13.97, p = .00$; see figure 4). Neither main effect was significant ($F_s < 2.31$). Planned contrasts showed that when the gift recipient was a male friend, participants deemed the anthropomorphic product less suitable ($M = 4.31, SD = 1.82$) than the nonanthropomorphic product ($M = 5.08, SD = 1.34; F(1, 208) = 5.88, p = .02$). By contrast, when the gift recipient was a female friend, participants perceived the anthropomorphic product as more suitable ($M = 5.47, SD = 1.36$) than the nonanthropomorphic product ($M = 4.59, SD = 1.81; F(1, 208) = 8.22, p = .01$).

Figure 3. 4. The effects of product anthropomorphism and recipient gender on perceived suitability



Moderated Mediation Analysis. We hypothesized that perceived suitability would mediate the interactive effects of product anthropomorphism and recipient gender on purchase likelihood. As such, we conducted a moderated mediation analysis using Model 8 in the PROCESS macro (Hayes 2013) with 5,000 bootstrapping iterations. The analysis revealed that the index of moderated mediation was significant ($b = 1.420$, $SE = .40$; 95% CI: .675 to 2.232). Specifically, in the female recipient condition, the indirect effect of product anthropomorphism on purchase likelihood through the hypothesized mediator, perceived suitability, was positive and significant ($b = .680$, $SE = .247$; 95% CI: .200 to 1.164); in the male recipient condition, the indirect effect of product anthropomorphism on purchase likelihood through the hypothesized mediator, perceived suitability, was negative but also significant ($b = -.593$, $SE = .245$; 95% CI: -1.092 to -.130).

Study 6 provided further evidence for the anthropomorphism–femininity association by showing that product anthropomorphism increases (decreases) purchase likelihood when the product is a gift for a female (male) recipient. Furthermore, we found that perceived suitability (of the product as a gift for the gender-specific recipient) mediates this effect. Taken together, studies 5 and 6 suggest that, in general, marketers should target anthropomorphic products to

female consumers, while to attract male consumers to such products, they should first find ways to affirm their masculinity.

General discussion

Across seven studies, we provide converging evidence for the proposed anthropomorphism–femininity association. Specifically, we show that consumers associate anthropomorphism, in the forms of both anthropomorphic consumption and general anthropomorphizing behavior, with femininity. Consistent with our theorizing, the pilot study found that women purchase anthropomorphic products and engage in anthropomorphizing behaviors more often than men and that both frequencies of purchasing anthropomorphic products and engaging in anthropomorphizing activities positively correlate with ratings of self-perceived femininity. Further evidence supporting the anthropomorphism–femininity association came from the social perception and self-perception contexts, which showed that feminine (vs. masculine) consumers were assumed to be more likely to purchase anthropomorphic products (study 1), that consumers owning anthropomorphic (vs. nonanthropomorphic) products were considered more feminine (study 2), and that recalling past anthropomorphizing experiences elevated people’s self-perceived femininity (study 3). An IAT (study 4) provided direct evidence for the existence of the implicit association between anthropomorphism and femininity. We derived further triangulating evidence from male consumers’ contradictory responses to anthropomorphic products after their masculinity was either threatened (study 5a) or affirmed (study 5b). Finally, we tested this association in a gift-giving context and demonstrated that it affected consumers’ choice of anthropomorphic versus nonanthropomorphic gifts (study 6).

Theoretical Contributions

This research contributes to extant literature in several ways. In particular, this work adds to the literature on anthropomorphism by establishing the anthropomorphism–femininity association and demonstrating the novel effects that, first, anthropomorphism induces femininity perceptions and, second, high femininity prompts high anthropomorphic tendency. Current consumer research on anthropomorphism primarily centers on the antecedents and consequences of consumers’ tendency to anthropomorphize products. For example, research has found that consumers show a greater tendency to anthropomorphize when a product’s characteristics are congruent with a human schema (Aggarwal and McGill, 2007), when consumers are primed to think of a product as human (Aggarwal and McGill 2012), and when people feel greater power and less risk (with risk manipulated as winning vs. losing the slot machine game; Kim and McGill 2011). Anthropomorphism, in turn, affects consumers’ inferences about and preferences for the product, such that an anthropomorphized autonomous product increases consumer trust (Waytz et al. 2014) but an anthropomorphized temptation product undermines consumer self-control, because consumers regard it as an agent that intentionally supports their indulgence (Hur et al. 2015). Despite the significant progress made regarding anthropomorphism, little is known about how anthropomorphism may influence consumers’ perceptions of themselves and others. By demonstrating that consumers infer that those (including themselves) who purchase anthropomorphic products or engage in anthropomorphic behaviors are more feminine (vs. masculine) and that individuals high in femininity (vs. masculinity) are more prone to anthropomorphize, this research sheds light on the interplay between anthropomorphism and people’s construal of gender-identity, thereby adding nuances to the anthropomorphism literature.

Furthermore, our research helps provide a succinct, overarching explanation for different findings in the anthropomorphism literature. For example, prior work suggests different accounts for the effect of anthropomorphism on individuals' prosocial tendency. Ahn et al. (2014) propose that anticipatory guilt accounts for individuals' compliance with anthropomorphized social causes, whereas Tam, Lee, and Chao (2013) argue that the increased feeling of connectedness with nature is the underlying reason anthropomorphizing nature promotes conservation behavior. The findings from our studies suggest that femininity, as a possible mechanism, helps reconcile these previously documented accounts because both anticipatory guilt and need for connectedness are prototypical feminine traits.

This research also contributes to the emerging literature on gender identity associations of consumption activities. Recent research has investigated the gender meanings people attach to specific consumer behaviors. For example, Rozin et al. (2012) reveal a metaphoric link between meat consumption and masculinity, showing that meat such as beef and steak were strongly associated with maleness. Yan (2016) examines the association between numerical precision (roundness) and masculinity (femininity) and suggests that, compared with round numbers, people perceived precise numbers as connoting masculinity to a greater extent. Brough et al. (2016) examine how engaging in green behavior or consuming green products are perceived as unmanly. Our work enriches this line of research by showing that consumers associate anthropomorphism, both specific anthropomorphic consumption activities and general anthropomorphizing behavior, with femininity.

On a broader level, our work also contributes to the literature on implicit associations and lay beliefs held by consumers. Research has unveiled several lay beliefs consumers hold and demonstrated their impacts on consumer judgments and decision making. For example, the

effort–quality association suggests that consumers evaluate the quality of products (e.g., painting) depending on how much time it takes to produce them (Kruger et al. 2004); the unhealthy–tasty association demonstrates that consumers generally believe that unhealthy foods are more tasty than healthy foods (Raghunathan et al. 2006); and the healthy–expensive association indicates that consumers assume that healthy foods are more expensive (Haws et al. 2017). By demonstrating that consumers associate anthropomorphism with femininity, our research adds to this stream of research.

Moreover, our work sheds light on the issue of whether femininity and masculinity are bipolar ends on a unidimensional scale or two orthogonal dimensions. Extant research has not reached common ground on this point. Some research favors the unidimensional perspective, in that people often naturally think of masculinity and femininity along a single continuum (Storms 1979) and that someone high in masculinity is often considered low in femininity (Rozin et al. 2012). Although researchers have widely use the unidimensional measure in practice (Lieven et al. 2014; Yan 2016), there is growing evidence supporting the bidimensional perspective (Brough et al. 2016; Hoffman and Borders 2001). Our finding that anthropomorphism highly correlates with femininity but not masculinity lends additional support to the bidimensional gender identity perspective.

Managerial Implications and Future Research

Our findings that consumers associate anthropomorphism with femininity provide important implications to marketers. Because consumption of anthropomorphic products signals feminine traits to oneself and others, marketers should strategically employ anthropomorphism to appeal to different customer segments. That men eschew anthropomorphic products, especially when their masculinity is threatened, indicates that it might not be a good idea to use

anthropomorphism to design or promote products targeted at male consumers.

Anthropomorphism might even be a losing strategy when the product is used to demonstrate masculinity. However, for products targeted at women or used to signal femininity, anthropomorphic designs or communications can increase consumers' purchase intentions.

In addition, our research offers a solution to alleviate the negative effects of anthropomorphism on male consumers' responses. Our findings suggest that confirming male consumers' masculinity renders them more open to accepting anthropomorphic brands and products. Marketers could therefore assure male consumers of their masculinity to counteract the negative responses and even cultivate positive responses to anthropomorphic brands and products.

Future research could extend our research in several directions. First, our finding that anthropomorphism elevates self-perceived femininity implies that being exposed to anthropomorphic stimuli or engaging in anthropomorphizing activities might lead to prosocial behavior as women tend to be more other oriented and prosocial than men (Brunel and Nelson 2000; Meyers-Levy and Loken 2015). Future research should test this prediction.

Second, brand anthropomorphism might render the brand more "warm" and thus reduce the distance between consumers and the brand. In this sense, anthropomorphism is conducive to fostering brand connections in general. However, according to Ward and Dahl (2014), being warm might hurt luxury brands. Therefore, brand anthropomorphism might reduce luxury perceptions of brands. Future research could examine this conjecture.

As technologies in artificial intelligence and consumer robotics advance, consumers will be exposed to a flurry of new anthropomorphic products in the near future and even be able to incorporate these products in their day-to-day lives. Will this trend of adopting anthropomorphic

products increase people's femininity on a societal level? This could be a novel topic for future research.

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Appendix

Appendix A. Essay 2 (Study 1a): tour package stimuli (words in parentheses reflect the prevention-focus condition)

“Join us in this tour of adventure (relaxation)! It will give you an exquisite (tranquil) experience of excitement (serenity)! Here, you will explore the mysterious and inspiring (comfortable and agreeable) forest where the sun is nearly blocked by the trees. You will also cross a viewing gallery. Its floor is made of transparent glass, through which you can see the valley below and the turbulent river that runs through it (listen to the tranquil singing of the spring water). You will also have the opportunity to encounter wild (cute) animals and thrill (relax) yourself by savoring the spring water. Let’s walk into this explorers’ paradise (nature’s oxygen bar)!”

Study 1a: stimuli pretest

To examine whether our product descriptions indeed implied different regulatory foci, we pretested stimuli to 64 undergraduate students (59% female, $M_{age} = 20.1$). They were randomly assigned to view either promotion-focused or prevention-focused product descriptions. Following Aaker and Lee (2001), we altered the regulatory focus of the product appeals. Participants were told that a travel agent had recently posted a tour package incorporating several well-known tourist sites. Then, they were randomly assigned to either the promotion- or the prevention-focus condition. In the promotion-focus condition, the package was described as adventurous and exciting, while in the prevention-focus condition, the package was described as providing relaxation and comfort.

Afterward, participants reported their agreement with three statements on 7-point Likert scales (1 = strongly disagree, 7 = strongly agree). Two statements (i.e., “The tour package described in the advertisement is adventurous” and “The tour package described in the advertisement is exciting”) measured the promotion focus (Cronbach’s $\alpha = .884$), and the third statement (“The tourist package described in the advertisement is safe”) assessed the prevention focus.

The ANOVA indicated that participants in the promotion-focus condition viewed the package as more promotion focused ($M_{\text{promotion}} = 4.19$, $M_{\text{prevention}} = 2.66$; $F(1, 62) = 13.495$, $p = .00$) while participants in the prevention-focus condition considered that package more prevention focused ($M_{\text{prevention}} = 5.23$, $M_{\text{promotion}} = 4.21$; $F(1, 62) = 8.09$, $p = .00$). These results indicated that our manipulations of product appeal regulatory focus were successful.

Appendix B. Essay 2 (Study 1b): restaurant stimuli (words in parentheses reflect the prevention-focus condition)

Blue Ocean-Themed Restaurant

“In this nature’s paradise, you can choose from the many bold (familiar) dishes and fun (healthy) drinks we have prepared for you and your companions. These drinks bring you a feeling of excitement (contain antioxidants).

The most unique experience is that while you are dining in our restaurant, you will feel like you are surrounded by the swiftly (softly) moving waves of the ocean. You will also be surrounded by vivid images of various marine life, with their mouths opening toward (greeting) you and their bodies energetically beating (softly touching) the waves from time to time. This all brings you the excitement of exploring the ocean (relaxation of experiencing the ocean). Come and bring you companions to savor (share) this extraordinary (relaxing) experience.”

Study 1b: stimuli pretest

Sixty students participated in the pretest (60% female, $M_{age} = 20.3$). The manipulation and measures for the promotion and prevention foci (Cronbach’s $\alpha = .757$) were the same as in Study 1a except that participants read about a restaurant. The results show that participants who read the promotion-focused appeal rated the restaurant frame as more promotion focused ($M_{promotion} = 5.05$, $M_{prevention} = 3.63$; $F(1, 58) = 16.27$, $p = .00$) while participants in the prevention-focus condition considered dining at the restaurant more prevention focused ($M_{prevention} = 4.65$, $M_{promotion} = 3.07$; $F(1, 58) = 13.85$, $p = .00$). Therefore, the manipulation of product appeal was successful.

Appendix C. Essay 2 (Study 2): flash drive stimuli

Speed King (Promotion-focus Condition)

Appearance: Speed King features a stylish, full-metal shell with clean and smooth contours, one-piece metal covering with a frosted shell surface, and a super cool CTSE sliding design. Speed King also provides an uncannily thin and light user experience.

Flash memory: 8G-64G multiple choices

Color: Various colors to choose from.

High-tech performance: Speed King boasts high-speed data reading and writing (12 times the speed of regular USB drives) and fast transmission and ejection.

Security King (Prevention-focus Condition)

Appearance: Security King features a secure full rubber shell with clean and smooth contours, an integrated rubber cover (waterproof and vibration-proof), and a smooth DTEE sliding cap. Security King also prevents data loss and eliminates the worries of losing the cap.

Flash memory: 8G-64G multiple choices

Color: Various colors to choose from.

High-tech performance: Security King also boasts encrypted data reading and writing, privacy assurance with password protection, and enhanced damage-resistance chip.

Study 2: flash drive stimuli pretest

Participants completed four, 7-point scales (1 = strongly disagree, 7 = strongly agree) assessing the regulatory focus of the product appeals for both types of flash drives. Specifically, two of the four measures—"I think the Speed (Security) King flash drive gives me a sense of coolness" and "I think the Speed (Security) King will improve my efficiency—served to measure the promotion focus; the other two measures—"I think the Speed (Security) King flash drive is

safe to use” and “I think the Speed (Security) King flash drive reduces the chance of losing documents—assessed the prevention focus.

The results provide support for the effectiveness of our manipulations of product appeals. Participants viewed the Speed King as cooler ($M_{\text{promotion}} = 5.20, M_{\text{prevention}} = 3.77; t(63) = 6.59, p = .00$) and more effective ($M_{\text{promotion}} = 5.33, M_{\text{prevention}} = 3.89; t(63) = 7.88, p = .00$) than the Security King. Conversely, they perceived the Security King as bringing a sense of safety ($M_{\text{prevention}} = 5.78, M_{\text{promotion}} = 3.77; t(63) = 11.81, p = .00$) and reducing the chance of losing documents ($M_{\text{prevention}} = 5.81, M_{\text{promotion}} = 3.34; t(63) = 16.305, p = .00$).

Appendix D. Essay 2 (Study 3): athletic shoes stimuli

A sneaker brand recently launched a pair of sneakers. The sneakers incorporate a lot of new technologies. The following features describe the benefits the sneakers:

Promotion-focus:

- EVLite material provides an experience of ultra-lightness.
- New walking circulation system and streamlined design improve walking efficiency.
- H-Ergy synthetic rubber material accelerates rebound speed and promotes excellent performance in various activities.

Prevention-focus:

- EVLite material prevents you from sliding.
- New walking circulation system and streamlined design reduce fatigue in walking.
- H-Ergy synthetic rubber material is antiskid and provides ultra-safety in various activities.

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MANUSCRIPT UNDER REVIEW

Fei, Xianzheng, **YanfenYou** (equal authorship), and Xiaojing Yang, "We" Are Different: The Distinct Effects of Friend and Family Reminders on Consumer Choice," (Revising for 2nd round review at *Journal of Consumer Psychology*).

DISSERTATION

You, Yanfen, Xiaojing Yang, Lili Wang, and Xiaoyan Deng, "Toward Optimal Symbolic Recovery: When and Why "Thank you" is Better Than "Sorry" in Addressing Service Delays," (Dissertation Essay 1), revising for resubmission to *Journal of Consumer Research*.

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