Explaining the Endowment Effect through Ownership: The Role of Identity, Gender, and Self-Threat

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The price people are willing to pay for a particular good is often significantly less than the price they are willing to accept to give up the same good (Kahneman, Knetsch, and Thaler 1990, 1991). Many studies have shown that the valuations of a good from those randomly assigned to receive it (i.e., sellers “endowed” with the good) exceed the valuations of the good from those randomly assigned not to receive it (i.e., buyers; Kahneman et al. 1990, 1991; Knetsch 1989; Knetsch and Sinden 1984; Thaler 1980; Van Boven, Dunning, and Loewenstein 2000). Thaler (1980) called this increase in valuation of a good when the good becomes part of one’s endowment the “endowment effect.”

The key difference between buyers and sellers is the possession of a good; sellers have a good in their possession, while buyers do not. A question that has yet to be answered fully, however, is when and why possession of a good contributes to disparities in valuations between sellers and buyers.

Traditionally, possession has been thought to matter because it causes selling to feel like a loss (Kahneman and Tversky 1979; Thaler 1980). This “loss aversion account” suggests that a good is evaluated as a loss when it is given up and as a gain when it is acquired, and because losses loom larger than gains, sellers expect to suffer more than buyers expect to benefit. As a result, sellers demand more compensation than buyers are willing to provide, resulting in higher selling prices than buying prices for an identical good. Theorists have argued that possession of a good does not affect its attractiveness or appeal but rather simply the pain associated with giving it up (Kahneman et al. 1991). Their argument is simply that sellers are averse to losing a possession and thus increase their valuations to avoid doing so (Kahneman et al. 1991).

More recently, however, researchers have begun to challenge this traditional view. The “ownership account” argues that ownership indeed affects the appeal of a good. Ownership involves a sense of possession toward an object and results in objects being perceived as “mine” (Belk 1988; Pierce, Kostova, and Dirks 2003). Morewedge et al. (2009) find support for the ownership account for the endowment effect.
effect in that buyers and sellers have similar valuations of a good when buyers already own an identical good. They argue that this result occurs "in part because people are motivated to justify their choices, and in part because owning an item creates an association between the item and the self" (948). Because of the intrinsic tendency to enhance one's self, this "possession-self link" resulting from ownership subsequently boosts the possession's perceived value (Aggarwal 2004; Aggarwal and Law 2005; Belk 1988; Gawronski, Bodenhausen, and Becker 2007; Kleine, Kleine, and Kernan 1993). In other words, people value objects they own more than objects they do not, and therefore ownership affects the appeal of a good. Consistent with this self-enhancement view, Maddux et al. (2010) demonstrate that the endowment effect is stronger in Western cultures, in which self-enhancement tendencies are greater, than in Eastern cultures, in which self-enhancement goals are less salient.

The current research posits that if ownership accounts for valuation gaps between sellers and buyers, varying the possession-self link will have an impact on the magnitude of the endowment effect. Research on self-threat suggests that people increase the value of their possessions as a way to indirectly enhance their self (Beggan 1992; Pettit and Sivanathan 2011; Sivanathan and Pettit 2010). Identity theory also implies that linking a good to an in-group or an out-group changes the possession-self link (Escalas and Bettman 2005; Reed 2004). The possession-self link should be stronger (weaker) for goods associated with one's in-group (out-group). Previous research, however, suggests that there may be attentional differences among men and women to such identity associations. Consequently, we argue that the effect of identity associations on the possession-self link, and subsequently the endowment effect, vary by gender. Therefore, we investigate whether social self-threat, the social identity associations of a good, and gender moderate the endowment effect.

In summary, the contributions of this research are threefold. First, these findings add to a growing stream of research on the role of ownership in explaining the endowment effect (Morewedge et al. 2009). By looking at social self-threat, identity associations, and gender as theoretically meaningful moderators, we provide evidence for the ownership account for the endowment effect. In doing so, we call into question the loss-aversion explanation that has traditionally dominated understanding of the discrepancies in buyer and seller valuations. Second, we show that gender moderates the endowment effect for a good with out-group identity associations. We build on past research that suggests that men have a more agentic orientation, whereas women have a more communal orientation (Bakan 1966; Carlson 1971). Due to this difference in agency-communion orientation, we hypothesize that women are less likely than men to attend to intergroup comparisons, and therefore their possession-self link may be less affected by out-group associations. Thus, we find that women sellers demand higher selling prices than men for an out-group good. We show that when intergroup comparisons are made salient, however, these gender differences are eliminated. A third key contribution of this research is shedding light on how possession-self associations can help individuals cope with a threat to one's social self and the downstream impact of this on valuations of goods. It appears that men and women cope with social self-threat by increasing their valuations of goods that are closely linked to their identities. In addition, some individuals (i.e., males) may cope with social self-threat by devaluing goods that are in opposition to their identities. Taken together, the findings from this research examine how identity associations can influence economic value associated with goods and how the motivations of individuals can influence the extent of this valuation. The next section outlines the theory and develops the hypotheses for subsequent testing.

THEORY AND HYPOTHESES

The ownership account for the endowment effect suggests that owning a good creates an association between the item and the self and that this possession-self link increases the value of the good (Maddux et al. 2010; Morewedge et al. 2009). As noted previously, variables that theoretically should increase (decrease) the possession-self link should, according to the ownership account, also increase (decrease) the price sellers are willing to accept for a good, thus moderating the endowment effect. Next, we outline arguments for why a social self-threat provides an impetus for driving up sellers' valuations of goods. After that, we develop arguments for why social identity and gender moderate the endowment effect.

Social Self- Threat

Extensive literature documents that people look for ways to enhance their self after a threat to their self-concept (Argo, White, and Dahl 2006; Campbell and Sedikides 1999; Collange, Fiske, and Santisito 2009; Frey and Stahilberg 1986; Gao, Wheeler, and Shiv 2009; Jordan and Monin 2008; Park and Maner 2009; Sivanathan and Pettit 2010). Given the intimate connection between the self and possessions (Belk 1988), it follows to reason that people will attempt to increase the value of their possessions as a way to indirectly enhance their self (Beggan 1992; Pettit and Sivanathan 2011; Sivanathan and Pettit 2010). For example, Beggan (1991) demonstrates that people attribute characteristics to their possessions that they feel they themselves lack. This argument is consistent with prior research showing that products can be used to restore self-views (Gao et al. 2009; Pettit and Sivanathan 2011; Sivanathan and Pettit 2010) and to cope with existential self-threats (Kasser and Sheldon 2000; Rindfleisch, Burroughs, and Wong 2009). Thus, after a self-threat, when self-enhancement tendencies are greater, people can use possessions to affirm their self, and endowment effects are likely to be exaggerated (Beggan 1992; Maddux et al. 2010).

We argue that a threat to a person's social self is especially damaging and results in self-enhancement through posses-
sions. The sociometer hypothesis proposes that humans are driven to maintain a stable level of belongingness (Leary et al. 1995). If they detect evidence of social rejection, they experience lower levels of belongingness and subsequently lower levels of self-esteem, which in turn lead to attempts to restore feelings of self-worth (Gardner et al. 2005; Love-land, Smeesters, and Mandel 2010; Mead et al. 2011; Pick-ett, Gardner, and Knowles 2004).

Taken together, the literature on self-threat and social belong-ningness suggests that when a person’s social self is threatened, a way to enhance the self is to increase the valuation of his or her possessions. We expect this increase in valuation to hold under selling conditions only, not under buying conditions. Consistent with the ownership account, objects in a person’s possession become connected with the self (Gawronska et al. 2007; Morewedge et al. 2009), and this possession-self link is less pronounced in buying condi-tions in which the person is required to consider the costs of the purchase. This argument is in line with recent work by Pettit and Sivanathan (2011), who show that buying prices for luxury goods typically remain unchanged after a self-threat, when people are forced to consider the psychological cost of the expenditure involved.

In other words, in support of the ownership account, if a possession can enhance the self, we would expect a social self-threat to increase the possession-self link; this should subsequently drive up the value of a person’s possessions (i.e., selling or willingness to accept [WTA] prices) but have no effect on the value of things outside one’s possession (i.e., buying or willingness to pay [WTP] prices). Therefore, we posit the following hypothesis and test it with the first study.

**H1:** Participants in the social self-threat condition will demand a higher selling price than participants in the control condition (\(\text{WTA}_{\text{self}} > \text{WTA}_{\text{cont}}\)), but no difference will emerge in buying prices across the two conditions (\(\text{WTA}_{\text{self}} = \text{WTA}_{\text{cont}}\)).

**Social Identity Associations of the Good**

Tajfel and Turner (1979, 1985) introduced social identity, or the portion of a person’s self-concept derived from his or her membership in relevant social groups, to explain intergroup behavior, such as prejudice, stereotyping, and discrimination. According to Tajfel and Turner, people prefer the groups to which they belong (in-groups) over groups to which they do not (out-groups)—a preference the authors call “in-group bias.” Favoritism toward the in-group elicits many positive effects, including an increase in self-esteem (Luhtanen and Crocker 1991; Oakes and Turner 1980). In this way, membership in various social groups becomes an integral part of the self-concept and contributes to people’s social identity (Brewer 1991).

Building on social identity theory, consumer behavior research demonstrates that product preferences are often based on the social identity associations inherent in a good (Escalas and Bettman 2005; Ferraro, Escalas, and Bettman 2011; White and Dahl 2007). For example, Escalas and Bettman (2005) find that brands consistent with an in-group enhance self-brand connections for all consumers, while brands consistent with an out-group have stronger negative effects on independent versus interdependent consumers. Research also suggests that people consume goods both to reaffirm their identities and to communicate their identities to others (Escalas and Bettman 2005; Ferraro et al. 2011; Kleine, Kleine, and Allen 1995; Kleine et al. 1993; Reed 2004). In this vein, White and Dahl (2007) argue that products linked to dissociative reference groups can result in negative self-brand connections, product evaluations, and choice, particularly when self-presentation concerns are relevant.

These findings suggest that products become imbued with meanings derived from the social identities they symbolize. In other words, social identity theory suggests that in-group goods (e.g., a mug with the logo of one’s university) and out-group goods (e.g., a mug with the logo of a rival university) vary in their possession-self link. We compare the results for identity-linked goods with control conditions involving a generic good. If, as the ownership account would suggest, the possession-self link is contributing to the endowment effect, sellers should value in-group goods (with high possession-self links) more, thus exacerbating the endowment effect. Similarly, sellers should value out-group goods (with low possession-self links) less, thus eliminating the endowment effect.

The effect of social identity associations on the possession-self link should be especially prevalent after a social self-threat. Symbolic self-completion theory (Wicklund and Gollwitzer 1981) posits that people use material possessions and other indicators to communicate aspects of the self, particularly when they feel insecure in such aspects (Braun and Wicklund 1989). A good linked to a person’s social relationships, therefore, should be especially helpful in restoring his or her social self. Furthermore, as previously argued, a social self-threat increases the connection between the possession and the self as a person strives to restore his or her self. After a social self-threat, therefore, people should adopt generic possessions as part of their identity. When an item already reflects a person’s identity (i.e., an in-group good), the possession-self link should be further enhanced, whereas a good that opposes a person’s identity (i.e., an out-group good) should weaken the possession-self link.

**Gender**

There is reason to believe, however, that the downward pressure on selling prices by out-group identity associations varies by gender. Research has long argued that men and women differ in their conceptions of the self. Men have what is called an individualist, independent, or agentic self-schema (Markus and Kitayama 1991). Men’s conception of the self comes from striving for power and differentiation from others (Bakan 1966; Carlson 1971; Josephs, Markus, and Tafarodi 1992; Wiggins 1991). In contrast, women have
a communal self-schema, which is less focused on differentiation and more focused on forming connections with others (Bakan 1966; Carlson 1971; Markus and Kitayama 1991).

Many terms have been used to classify this difference in self-conceptualization between men and women, including agency communion (Bakan 1966; Carlson 1971). According to Bakan’s (1966, 15) definition of agency and communion, “agency manifests itself in the formation of separations, communion in the lack of separations.” Agency communion, therefore, is about perceptions of individual distinctiveness (Carlson 1971). Whereas the line between the self and others is blurred for communal individuals, agentic individuals perceive themselves as clearly unique and distinct from others.

Although both men and women may desire relationships, they seem to desire them for very different reasons and act differently in relationships. Zarbatany, Conley, and Pepper (2004) show that men are more likely to use friendships to enhance their social prominence. Not surprisingly, in same-sex friendships, men typically exhibit agentic behaviors, while women exhibit more communal behaviors (Suh et al. 2004). In consumer behavior literature, gender differences in agency communion have been shown to influence how men and women respond to charitable donations, advertising, financial and risky decision making, and social influences while shopping (Byrnes, Miller, and Schafer 1999; He, Inman, and Mittal 2008; Kurt, Inman, and Argo 2011; Meyers-Levy 1988; Winterich, Mittal, and Ross 2009). For example, Winterich et al. (2009) provide evidence that the communal orientation of women makes them more likely to incorporate out-groups into their conceptions of the self. Thus, within a charitable donation context, women with high moral identity are more favorably disposed to an out-group than are men.

As we stated previously, the possession-self link is weaker for objects associated with one’s out-group. Agency-communion theory suggests that gender moderates this effect. If men perceive themselves as distinct and different from others, out-group distinctions are likely to be significant for them. Out-group differentiation can serve their needs for uniqueness and separation (Brewer 1991). Thus, the possession-self link is likely reduced by out-group associations for men. In contrast, women are less likely to classify themselves as separate from others. The line between themselves and others is blurred. Therefore, their possession-self link may be less affected by out-group associations. In other words, the communal nature of women makes them less likely to perceive distinctions between self and others, which should also make them less likely to classify an out-group good as being “not me.”

For these reasons, while we expect selling prices to be lower for out-group goods than for generic goods among men, we do not expect the same pattern for women. Formally, we predict that under a social self-threat, men will have low selling prices for an out-group good, thus eliminating the difference between selling prices and buying prices and, consequently, the endowment effect. In contrast, women will show no such out-group derogation and thus continue to exhibit the endowment effect for an out-group good.

H2: Under a social self-threat, (a) men will exhibit no difference in selling prices and buying prices of an out-group good ($W_{TA_{out}} = W_{TP_{out}}$), thus eliminating the endowment effect, while (b) women will demand higher selling prices than buying prices of an out-group good ($W_{TA_{out}} > W_{TP_{out}}$), thus demonstrating the standard endowment effect.

In addition, we suggest that this pattern of results is driven by the social identity associations of a good. Therefore, we expect that a contrast between social identity-linked goods and a generic good will be significant. Specifically, men’s possession-self links will be weaker for out-group goods than for generic goods, resulting in lower selling prices of an out-group good than a generic good for men (but not women).

H3: Under a social self-threat, compared with a generic good, (a) men will demand significantly lower selling prices of an out-group good ($W_{TA_{out}} < W_{TA_{gen}}$), while (b) women will exhibit no difference in selling prices ($W_{TA_{out}} = W_{TA_{gen}}$).

We do not expect gender differences, however, to affect the selling prices of in-group goods. Rather, we believe that the possession-self link will be strengthened by the in-group associations for both men and women. Thus, in support of the ownership account for the endowment effect, we expect that both men and women will demonstrate exaggerated endowment effects for in-group goods.

H4: Under a social self-threat, (a) men and (b) women will demand higher selling prices than buying prices of an in-group good ($W_{TA_{in}} > W_{TP_{in}}$), thus demonstrating the standard endowment effect.

In addition, because of a strengthened possession-self link, we expect that selling prices of an in-group good will be greater than selling prices of a generic good for both men and women.

H5: Under a social self-threat, compared with a generic good, (a) men and (b) women will demand significantly higher selling prices of an in-group good ($W_{TA_{in}} > W_{TA_{gen}}$).

We test our hypotheses across four studies. In study 1, we test hypothesis 1 by examining the moderating effect of social self-threat on the endowment effect. In study 2, we show evidence that the social identity associations affect the strength of the possession-self link and find support for hypotheses 2–5. In study 3, we find that making intergroup comparisons salient to women leads them to lower their selling prices for out-group goods, thus providing additional evidence of the processes governing gender differences in the valuation of out-group possessions. Finally, in study 4,
we use a different experimental paradigm with motivation to exchange a good as our dependent measure (instead of price valuations) and find similar effects. Study 4 also provides evidence for the role of agency communion in explaining the gender differences within the context of out-group possession valuation.

STUDY 1

In study 1, we tested our hypothesis that a social self-threat would moderate the endowment effect (hypothesis 1). Specifically, we expected that a social self-threat would increase selling prices but not buying prices within an endowment effect context.

Design and Procedure

The study was a 2 × 2 design with social self-threat (yes, no) and role (seller, buyer) as manipulated between-subjects factors. Fifty-five undergraduate students (58% females; 42% males) at the University of Pittsburgh were randomly assigned to the four conditions on the basis of social self-threat and role. The study consisted of two parts: the social self-threat manipulation or control task and an endowment effect experiment. In this study, as well as all the other studies, we disassociated the two parts by presenting the study as two separate studies, with the social self-threat manipulation or control task presented as a "life events survey" and the endowment effect experiment presented as a "product evaluation study."

Social Self-Threat Manipulation. We manipulated social self-threat through a variation of the priming procedure that Bartz and Lydon (2004) use. We asked respondents to imagine a previous relationship in which they felt unloved and rejected and further encouraged them to think about how they felt being in this relationship, to imagine conversations and interactions with this person, and so forth. Then they wrote about their thoughts and feelings regarding themselves in relation to this person. Interpersonal rejection is a powerful threat to a person's social self and results in a negative view of self (Shaver and Hazan 1988). The appendix contains the social self-threat description and instructions.

We ran a pretest to ensure that the manipulation resulted in a negative view of self (i.e., successfully manipulated self-threat). Participants (n = 46) were either given the social self-threat manipulation or asked to write about activities they engage in on an average day (control condition). We measured participants' general views of self by averaging their agreement with two measures on a 7-point scale (1 = "extremely negative," and 7 = "extremely positive"): "What is your opinion of yourself at this point in time?" and "How do you view yourself at this point in time?" (r = .60). We also measured participants' state self-esteem on social, performance, and appearance dimensions using Heatherton and Polivy's (1991) scale (αsocial = .86, αperf = .80, αapp = .87). Participants in the social self-threat condition reported lower general self-views than those in the control condition (Msocial = 5.15 vs. Mself = 4.40; F(1, 44) = 4.18, p < .05). Participants in the social self-threat condition also reported lower social state self-esteem than those in the control condition (Mself = 3.54 vs. Mself = 3.06; F(1, 44) = 4.08, p < .05). No difference occurred in either performance or appearance state self-esteem among the two groups (p > .10).

If women are more communal in nature than men, it is possible that a social self-threat is more threatening to them. A desire to connect with others is a fundamental human motivation, however, and research shows that men also desire relationships with others (Baumeister and Sommer 1997; Gabriel and Gardner 1999). Given this, men and women should respond similarly in terms of both physiological and psychological reactions to a social self-threat (Gruenewald et al. 2004). We checked for gender differences in the manipulation check measures, but neither gender's main effect or its interaction effect had a significant impact. This finding suggests that the social self-threat manipulation successfully lowered participants' view of self, both generally and with respect to their social self, and that the manipulation was equally effective for men and women.

Endowment Effect Experiment. After the social self-threat manipulation, respondents participated in a typical endowment effect experiment (Kahneman et al. 1990) in which they assumed the roles of buyers and sellers of a generic ballpoint pen. Participants in the seller (endowed) condition received a pen at the beginning of the study and were told that it was theirs to keep in appreciation for completing the study. After completing the social self-threat manipulation, these "sellers" indicated whether they would prefer to keep the pen or exchange it for a cash amount. They made this decision for each of 40 prices, ranging from $0.25 to $10.00 (in $0.25 increments). Participants in the buyer (nonendowed) condition saw the pen after the social self-threat manipulation and then chose whether to receive the pen or the cash amount for each of the 40 prices.

Results and Discussion

We analyzed the data using an ANOVA with price as the dependent variable and social self-threat, role, and their interactions as independent variables. The overall model was significant (F(3, 51) = 11.49, p < .0001). The main effect of role was significant (F(1, 51) = 24.59, p < .0001), and the main effect of social self-threat was marginally significant (F(1, 51) = 3.04, p < .09). As expected, the interaction between social self-threat and role was significant (F(1, 51) = 4.01, p = .05). We also included gender as a factor in the model, but its effect was not significant, so we removed it for parsimony.

In the control condition, the endowment effect was present, with sellers stating higher prices than buyers (Mself = $1.59 vs. Mbuy = $0.90; F(1, 51) = 4.10, p < .05). The endowment effect was also present in the social self-threat condition (Mself = $2.47 vs. Mbuy = $0.84; F(1, 51) = 25.95, p < .0001). As expected, and in support of hypothesis 1, a social
self-threat increased selling prices \((F(1, 51) = 6.59, p < .05)\) but had no effect on buying prices \((F(1, 51) = .04, \text{NS})\). Figure 1 presents the least-squares means for each condition.

These results support our hypothesis that a social self-threat increases selling prices, thus moderating the endowment effect. After a social self-threat, individuals likely have strong possession-self links because possessions can enhance the self (Beggan 1992; Sivanathan and Pettit 2010) and help individuals cope with the threat. Thus, the ownership account would predict that a social self-threat would moderate the endowment effect through an increase in selling prices. Our findings, therefore, are consistent with the ownership account.

This study provides initial evidence on the possession-self link. We find that when people experience a social self-threat, even a generic good can become linked to the self. While it is not obvious what sort of self-associations a generic good may hold, it does appear that valuations of these goods increase by virtue of ownership. Consistent with this, a good imbued with social identity associations should greatly strengthen the possession-self link. Study 2 explicitly manipulates the possession-self link by varying identity associations of a good to garner more conclusive evidence of the role of the possession-self link.

**STUDY 2**

In study 2, we tested our hypotheses regarding the moderating effects of the social identity nature of the good and gender on the endowment effect. We expected that after a social self-threat, the endowment effect would be greater for in-group goods for both men and women, driven by an increase in the selling prices of in-group goods compared with generic goods. In addition, we expected that after a social self-threat, the endowment effect would be eliminated for out-group goods among men, driven by a decrease in the selling prices of out-group goods compared with generic goods. We did not expect this latter pattern of results for women.

**Design and Procedure**

The study was a \(3 \times 2 \times 2\) design with object (generic, in-group, out-group) and role (seller, buyer) as the between-subjects manipulated factors and gender as a measured factor. Two hundred fifty-three undergraduate students (58% females; 42% males) at the University of Pittsburgh were randomly assigned to the six conditions on the basis of object and role. All participants completed the social self-threat manipulation used in study 1. The good was a reusable shopping bag that was generic (i.e., no logo), had the participants’ university’s (Pitt) logo prominently printed on it (i.e., in-group), or had the rival university’s (Penn State) logo printed prominently on it (i.e., out-group).

After completing the social self-threat manipulation, respondents participated in an endowment effect experiment similar to that of study 1. In this study, however, we ensured incentive compatibility by telling respondents that we would randomly select one of their choices (or prices) to determine what they would receive at the end of the experiment (Becker, DeGroot, and Marschak 1964; Kahneman et al. 1991; Lerner, Small, and Loewenstein 2004). At the end of the study, the experimenter randomly selected one of the prices listed, and the participants received their choice at that price (either the bag or the money).

Participants in the selling condition also completed six items intended to measure possession-self link strength. We adapted the items from Escalas and Bettman’s (2005) self-concept connection scale. Participants rated their agreement with the following statements on a 7-point scale: “This tote bag makes me feel connected to others,” “This tote bag is a statement about how I am a part of a group,” “This tote bag reminds me of who I am,” “This tote bag is a part of me,” “This tote bag says a lot about the kind of person I would like to be,” and “This tote bag is a statement of who I want to be.” We averaged the six items together to form an overall measure of possession-self link strength \((\alpha = .89)\).

**Results and Discussion**

**Manipulation Check.** We first tested whether the social identity associations of a good successfully manipulated the strength of the possession-self link among sellers. If our theorizing is correct, we would find men to have stronger possession-self links to in-group possessions than to generic goods and weaker possession-self links to out-group possessions than to generic goods. Comparing the means across the object conditions supports this expectation. Men had stronger possession-self links to the in-group bag than to the generic bag \((M_{\text{in}} = 2.94 \text{ vs. } M_{\text{gen}} = 2.13; F(1, 103) =\)
6.60, *p < .05). Their possession-self links to the out-group bag, however, were weaker than to the generic bag (*M_{out} = 1.41 vs. *M_{gen} = 2.13; F(1,103) = 47.66, *p < .05).

Recall that our prediction was that women would be more connected with the in-group bag; however, we also argued that their communal nature makes them less affected by out-group associations. In other words, we expected no difference in possession-self link strength between the out-group bag and the generic (no logo) bag. In support of this theorizing, women reported greater possession-self link strength to the in-group bag than to the generic bag (*M_{w} = 3.56 vs. *M_{gen} = 2.35; F(1,103) = 15.01, *p < .001) but reported no difference in their possession-self link strength to the out-group bag than to the generic bag (*M_{out} = 2.14 vs. *M_{gen} = 2.35; F(1,103) = 1.73, NS). Thus, the social identity associations of the good successfully manipulated possession-self link strength in the predicted manner.

Endowment Effect. We analyzed the data using an ANOVA with price as the dependent measure and object, role, gender, and their interactions as independent variables. The overall model was significant (F(11,241) = 8.95, *p < .0001). The main effects of object, role, and gender were all significant (object: F(2,241) = 48.86, *p < .01; role: F(1,241) = 42.83, *p < .0001; gender: F(1,241) = 19.43, *p < .0001). The interaction between object and role was significant (F(2,241) = 5.99, *p < .01). The three-way interaction among object, role, and gender was also significant (F(2,241) = 3.07, *p < .05). No other effects were significant. We ran simple effects tests for men and women separately; we present these results next.

Men. Tests for simple effects revealed that the interaction between object and role was significant for men (F(2,241) = 6.10, *p < .01). In the out-group condition, the endowment effect was not present for men because there was no difference between buying and selling prices (*M_{sell} = $1.15 vs. *M_{buy} = $1.69; F(1,241) = .65, NS). This pattern of results supports hypothesis 2a. In contrast, the endowment effect was present in the in-group bag condition (*M_{sell} = $4.12 vs. *M_{buy} = $1.20; F(1,241) = 14.97, *p < .001), in support of hypothesis 4a. The endowment effect was also present in the generic bag condition (*M_{sell} = $2.73 vs. *M_{buy} = $1.19; F(1,241) = 5.86, *p < .05).

The effect of bag condition was significant among male sellers (F(2,241) = 10.77, *p < .0001). Men in the out-group bag condition had significantly lower selling prices than those in the generic bag condition (F(1,241) = 5.20, *p < .05). Thus, hypothesis 3a was supported. In support of hypothesis 5a, men in the in-group bag condition demanded significantly higher selling prices than those in the generic bag condition (F(1,241) = 4.36, *p < .05). The effect of bag condition was not significant, however, among male buyers (F(2,241) = .37, NS).

Women. The interaction between object and role was only marginally significant for women (F(2,241) = 2.38, *p < .10). Unlike men, and in support of hypothesis 2b, women demonstrated the endowment effect for the out-group bag (*M_{sell} = $3.85 vs. *M_{buy} = $1.79; F(1,241) = 11.36, *p < .001). Like men, and in support of hypothesis 4b, women also demonstrated the endowment effect for the in-group bags (*M_{sell} = $5.10 vs. *M_{buy} = $2.10; F(1,241) = 29.18, *p < .0001). The endowment effect was also present for the generic bags (*M_{sell} = $3.69 vs. *M_{buy} = $2.44; F(1,241) = 4.71, *p < .05).

The effect of bag condition was significant among female sellers (F(2,241) = 3.09, *p < .05). While no differences occurred in selling prices across the out-group and generic bag conditions (F(1,241) = .65, NS), women in the in-group condition demanded significantly higher selling prices than those in the generic bag condition (F(1,241) = 4.95, *p < .05). This pattern of results supports hypotheses 3b and 5b. There was no effect of bag condition, however, among female buyers (F(2,241) = .83, NS). Figure 2 presents the least-squares means for each condition.

The results from study 2 demonstrate that social identity plays a moderating role in the endowment effect by affecting selling prices, thus providing further support for the ownership account. We find that sellers experiencing a social self-threat have higher valuations of in-group goods than of generic goods, thus exacerbating the endowment effect. Regarding out-group goods, after a social self-threat, in the selling condition men had lower valuations of such possessions than of generic goods, while female sellers exhibited no such change in valuations. Therefore, the endowment effect for an out-group good was not present for men but remained for women.

We also find evidence in study 2 that social identity associations affect possession-self link strength, as we expected. The possession-self link strength for the in-group good was the strongest for both men and women, but only men demonstrated a weakened possession-self link for out-group goods. Women had an equal connection with out-group and generic possessions. The ownership account for the endowment effect would suggest that the endowment effect for an out-group good is not eliminated for women because their possession-self link is not altered. In support of this proposition, we find that possession-self link strength and selling prices were correlated (r = .24, *p < .02). To ensure robustness, we also replicated these findings using a different type of product (i.e., pens). The results were identical to those obtained with tote bags. (Detailed results are not provided here to save space but are available on request.)

The preceding results suggest that out-group identity associations do not have as strong an effect on women as on men. Women's valuations of out-group goods are not different from their valuations of generic goods. We have argued that this is because women's communal nature blurs the line between the self and others, making them less proficient at recognizing and comprehending intergroup comparisons than men. While research has shown that women may be more likely to incorporate out-groups into their conceptions of the self (Winterich et al. 2009), to our knowledge no one has examined attentional differences among men and women with regard to intergroup comparisons. If this is the
primary reason for the gender differences observed, making intergroup comparisons salient across both men and women should eliminate the differences based on gender. We set out to test this hypothesis in study 3, which incorporated an explicit intergroup comparison condition in which participants received both in-group and out-group goods simultaneously.

STUDY 3
The purpose of study 3 was to determine whether women’s pattern of valuations in an endowment effect for out-group goods would mimic that of men when intergroup comparisons were salient. Therefore, we modeled study 3 after the work of Nayakankuppam and Mishra (2005). Study 3 was similar to study 2, with one key difference. We added a condition in which participants saw both the in-group and the out-group bags next to each other before valuing one or the other. Presumably, seeing the bags next to each other should force women to attend to features they may not automatically attend to, thus increasing the likelihood of intergroup comparison. To establish robustness of the effects, we also used a different manipulation of social self-threat based on an unscrambled sentences task.

Design and Procedure
One hundred thirteen undergraduate students at the University of Pittsburgh took part in the experiment (51% females; 49% males). All participants began by participating in the social self-threat manipulation. They were asked to unscramble a series of sentences, many of which were related to social self fears (e.g., “I often feel alone,” “People are often unsupportive”). The remaining sentences were filler sentences (e.g., “Jogging is a good way to exercise”).

After the social self-threat manipulation, participants again received tote bags. Some of the participants (the comparison group) saw both the in-group (Pitt) and the out-group (Penn State) tote bags. Other participants (the control group) saw only one of the bags. Participants who saw both tote bags evaluated one of the bags only. Rather than assign participants to buying and selling conditions, in this study,
we had them act as both buyers and sellers, imagining themselves in both roles. Research has shown that simply imagining owning an object is sufficient to induce feelings of ownership (Brinbaum et al. 1992; Strahilevitz and Loewenstein 1998). The order of buying and selling prices was counterbalanced. Thus, the design of the experiment was a 2 (role: buyer vs. seller) × 2 (group: control vs. comparison) × 2 (object: in-group vs. out-group) × 2 (gender: male vs. female) design, with group and object as between-subjects factors, role as a within-subject factor, and gender as a measured variable.

Results and Discussion

**Manipulation Checks.** We pretested the scrambled sentence task (n = 58) to ensure that it successfully lowered participants’ view of self and social self-esteem. Half the participants completed the scrambled sentence task, and the other half completed a control task in which they wrote about their trip to campus that day. We again measured participants’ general view of self by averaging their agreement to the items “How satisfied are you with yourself at this point in time?” and “How do you view yourself at this point in time?” (r = .95). We also used Heatherton and Polivy’s (1991) scale for participants’ state self-esteem on social, performance, and appearance dimensions (α—and = .91, α-per = .83, α-app = .90).

We found that the scrambled sentence task significantly lowered overall self-view (Mcon = 5.66 vs. Mself = 4.61; F(1, 56) = 8.87, p < .01). This task also lowered social state self-esteem (Mcon = 3.50 vs. Mself = 3.02; F(1, 56) = 4.13, p < .05) but had no effect on performance or appearance state self-esteem (p > .10). We also checked for gender differences in the manipulation check, but neither its main effect nor its interaction effect had a significant impact.

To check whether showing the two bags together successfully manipulated intergroup comparison salience among women, we asked the participants to rate their connection with and attachment to their university on 7-point scales (1 = “not at all,” and 7 = “very”; r = .73). Women reported being more attached to their university in the comparison condition than in the control condition (Mcon = 5.53 vs. Mcomp = 6.13; F(1, 110) = 3.87, p = .05). Showing the two bags together had no effect, however, on men’s attachment to their university (Mcon = 5.96 vs. Mcomp = 5.53; F(1, 110) = 1.94, NS). This pattern of results supports our theorizing about gender. If men already incorporate intergroup comparisons into their judgments, seeing the bags together should have no effect on them. If, however, women are less likely to incorporate intergroup comparisons into their judgments, seeing the two bags together should make the comparison salient and thus increase their attachment to their university. Therefore, the comparison condition successfully manipulated intergroup comparison salience for women.

**Endowment Effect.** We ran a 2 (role: buyer vs. seller) × 2 (group: control vs. comparison) × 2 (object: in-group vs. out-group) × 2 (gender: male vs. female) mixed ANOVA. To simplify the results, we present them for men and women separately.

For men, the three-way interaction among role, group, and object was not significant (F(1,52) = .34, NS). This was not unexpected; we assumed that the comparison would have no effect on men because they likely automatically incorporate intergroup comparisons into their judgments. In the control condition, men demonstrated the endowment effect for the in-group bag but not for the out-group bag (in-group: Mself = $4.28 vs. Mbuy = $3.57; F(1, 105) = 4.56, p < .05; out-group: Mself = $2.08 vs. Mbuy = $1.33; F(1,105) = 1.71, NS). This same pattern of results also emerged in the comparison condition (in-group: Mself = $3.87 vs. Mbuy = $3.09; F(1, 105) = 5.22, p < .05; out-group: Mself = $2.45 vs. Mbuy = $2.00; F(1, 105) = 1.53, NS).

For women, the three-way interaction among role, group, and object was significant (F(1, 53) = 4.05, p < .05). Consistent with previous findings, women in the control condition reported higher selling prices than buying prices for both the in-group bag and the out-group bag (in-group: Mself = $3.13 vs. Mbuy = $2.40; F(1, 105) = 4.08, p < .05; out-group: Mself = $1.54 vs. Mbuy = $0.63; F(1, 105) = 7.91, p < .01). In the comparison condition, women continued to demonstrate the endowment effect for the in-group bag (Mself = $4.45 vs. Mbuy = $2.61; F(1, 105) = 23.93, p < .0001), but the endowment effect was not present for the out-group bag (Mself = $1.06 vs. Mbuy = $0.89; F(1, 105) = .13, NS). The least-squares means for each condition appear in figure 3.

The findings from this study shed light on why out-group identity associations have less impact on women’s selling prices in an endowment effect experiment. Because of their agentic nature, men tend to adopt intergroup comparisons into their judgments. In contrast, the communal nature of women blurs the line between the self and others, making women less likely to notice in-group and out-group distinctions. Thus, agency-communion theory combined with social identity theory would suggest that men’s possession-self links are more affected by out-group identity associations than are women’s. When intergroup comparisons are made salient, however, we find that out-group associations affect women’s possession-self links and, subsequently, their selling prices.

We have argued that the gender differences within the context of an out-group good are due to the agentic nature of men and the communal nature of women. If our results are primarily due to these agentic-communal differences, we expect that in the presence of agency-communion measures, the role of gender effects will be minimized. To obtain further support for these arguments, in study 4, we measure agency and communion across both men and women. Specifically, we predict that under a social self-threat, participants high in agency will have lower preference for an out-group good than do participants high in communion. The findings from the previous studies seem to be a consequence
of the social self-threat, which makes social identity an avenue to restore one’s view of self. We test this assumption in study 4, by examining whether the effects of social identity are mitigated when people are given an opportunity to restore their self-view before the endowment effect.

Furthermore, an unanswered question from the preceding findings is whether gender effects driven by agency communion persist in situations in which a lower risk is associated with the transaction. Brown (2005) argues that a certain amount of risk is present in an endowment effect experiment because of the ambiguity surrounding the true value of a good. Specifically, within an endowment effect context, sellers are at risk of selling at a price below value, and buyers are at risk of paying a price above value. Thus, sellers (buyers) protect themselves from getting a bad deal by increasing (decreasing) their offers. To examine the robustness of our findings in situations in which the transaction cost is lowered, we broaden our experimental paradigm in study 4 by using a riskless choice paradigm similar to those used previously in the literature on loss aversion (Inesi 2010). Specifically, we asked participants to imagine exchanging their identity-linked good for another similar generic good. This reduces the risk of selling at a price below value. If the findings regarding gender persist in this choice paradigm, it will help establish robustness of the preceding findings.

STUDY 4

Study 4 had three primary purposes. First, as described previously, we examined whether the results hold when participants are given an opportunity to affirm their self after the social self-threat manipulation (but before the exchange motivation measures). Second, we included measures of agency and communion to shed further light on why gender differences were obtained in the preceding studies. Third, for reasons stated previously, we changed the experimental paradigm and examined people’s stated propensity to exchange one good for another. Consequently, we use a dif-
Design and Procedure

The study was a $2 \times 2 \times 2$ design with object (in-group, out-group) and self-affirmation (yes, no) as the between-subjects manipulated factors and gender as a measured variable. One hundred eighteen college students (48% females; 51% males) from an online panel were initially asked to provide the name of their own university and the name of a rival university (that competed with their own university in both academics and athletics). Then they completed 16 different dependent variable to measure valuation in study 4—that is, motivation to exchange.

Results

We conducted an ANOVA with exchange motivation as the dependent measure and object, gender, and self-affirmation as independent variables in a full factorial model. The overall model was significant ($F(7,110) = 13.53$, $p < .0001$). The main effect of object was significant ($F(1,110) = 74.82$, $p < .0001$), as was the main effect of self-affirmation ($F(1,110) = 4.55$, $p < .05$). The two-way interaction between object and self-affirmation was also significant ($F(1,110) = 4.36$, $p < .05$). The three-way interaction among object, gender, and self-affirmation was significant ($F(1,110) = 4.30$, $p < .05$). No other effects were significant. The least-squares means for each condition appear in figure 4. To simplify the presentation, we discuss the results of the analysis of simple effects conducted for men first and then women.

**Men.** The interaction between object and self-affirmation was significant for men ($F(1,110) = 17.23$, $p < .0001$). Planned contrasts indicated that in the absence of self-affirmation, men had greater exchange motivations for the out-group umbrella than for the in-group umbrella ($M_{out} = 5.68$ vs. $M_{in} = 2.97$; $F(1,110) = 53.44$, $p < .0001$). However, a social self-threat with the addition of self-affirmation mitigated this effect ($M_{out} = 4.79$ vs. $M_{in} = 4.25$; $F(1,110) = 2.22$, $p > .13$). The addition of the self-affirmation task decreased exchange motivation for the out-group umbrella ($F(1,110) = 5.85$, $p < .05$) and increased exchange motivation for the in-group umbrella ($F(1,110) = 11.95$, $p < .001$).

**Women.** In contrast, the interaction between object and self-affirmation was not significant for women ($F(1,110) = 1.18$, NS). Planned contrasts revealed that women had greater exchange motivations for the out-group good in both the presence and the absence of the self-affirmation task (no self-affirmation: $M_{out} = 4.94$ vs. $M_{in} = 3.00$; $F(1,110) = 23.12$, $p < .0001$; self-affirmation: $M_{out} = 5.25$ vs. $M_{in} = 3.91$; $F(1,110) = 13.14$, $p < .001$). However, while self-affirmation had no effect on the exchange motivation for the out-group good ($F(1,110) = .71$, NS), women were less motivated to exchange the in-group good in the absence of the self-affirmation task ($F(1,110) = 4.93$, $p < .05$).

Recall that in the previous study, out-group identity associations had stronger effects on men’s evaluations than women’s. In this study, consistent with the previous findings, in the absence of a self-affirmation task, men had greater exchange motivations for the out-group good than did women ($F(1,110) = 4.07$, $p < .05$). This difference was not significant, however, in the presence of the self-affirmation task ($F(1,110) = 1.56$, NS). In addition, no gender differences occurred in the exchange motivations for the in-group
good in either condition ($p > .35$), again replicating our previous findings.

In summary, both men and women were more motivated to exchange the out-group good than the in-group good, but this result was mitigated somewhat in the presence of a self-affirmation task. Men were more motivated than women to exchange the out-group good, but only in the absence of the self-affirmation task. Next, we examined whether these results replicated using measures of agency and communion, rather than gender, as a factor.

Agency and Communion Measures. As expected, men scored significantly higher than women on the agency-communion difference variable ($F(1, 116) = 34.92, p < .0001$), suggesting that men are more agentic and women are more communal. To discover whether our results replicated using measures of agency and communion, we next ran an ANCOVA with object, self-affirmation, and agency communion in a full factorial model predicting exchange motivation. We also included gender as a covariate. The overall model was significant ($F(8, 109) = 13.83, p < .0001$). The main effects of object and self-affirmation were significant (object: $F(1, 109) = 60.50, p < .0001$; self-affirmation: $F(1, 109) = 4.26, p < .05$). The two-way interaction between object and self-affirmation was significant ($F(1, 109) = 21.22, p < .0001$), as was the three-way interaction among object, self-affirmation, and agency communion ($F(1, 109) = 11.52, p < .01$). No other effects were significant, including gender as a covariate ($F(1, 109) = .01, NS$).

To further explore the three-way interaction, we examined the effect of object and agency communion in the presence and absence of self-affirmation separately.

In the absence of self-affirmation, the interaction between object and agency communion was significant ($F(1, 109) = 6.38, p < .05$). Further simple effects tests revealed that the effect of agency communion was significant in the out-group umbrella condition ($F(1, 109) = 9.58, p < .01$) but not in the in-group umbrella condition ($F(1, 109) = 1.01, NS$). Plotting the means at 1 standard deviation above and below the mean of agency communion revealed that participants with a relative agentic orientation had greater exchange motivation for the out-group umbrella than did those with a relative communal orientation. In addition, a spotlight analysis at 1 standard deviation above the mean of agency communion revealed a significant difference such that participants with a relative agentic orientation reported greater exchange motivations for the out-group umbrella than for the in-group umbrella ($b = -3.13, t(109) = -7.15, p < .0001$).

A similar spotlight analysis at 1 standard deviation below the mean of agency communion revealed that participants with a relative communal orientation also reported greater exchange motivations for the out-group umbrella than for the in-group umbrella ($b = 1.80, t(109) = 5.60, p < .0001$). Figure 5 plots the mean exchange motivation for the in-group umbrella and out-group umbrella conditions at plus or minus 1 standard deviation from the mean of agency communion.

In the presence of self-affirmation, the interaction between object and agency communion was also significant ($F(1, 109) = 5.21, p < .05$). Further simple effects tests revealed, however, that the effect of agency communion was not significant in the out-group umbrella condition ($F(1, 109) = 2.27, p > .13$) and only marginally significant in the in-group condition ($F(1, 109) = 3.09, p < .09$). Thus, the effect of agency communion was mitigated in the presence of self-affirmation.
Discussion

In study 4, we showed that the results occur under a social self-threat because people view social identity as a way to enhance the self, and we explain gender differences on the basis of agency and communion. By using another dependent variable (exchange motivation), we were also able to show that the results hold outside a traditional endowment effect experiment.

We sought evidence that social identity matters under a social self-threat because the possession-self link allows social identity-associated possessions to restore individuals' self-views through self-enhancement. When participants had an opportunity to affirm their self before stating their exchange motivations, no significant gender differences emerged in motivation to exchange an out-group good. This finding provides evidence that social identity-associated possessions act as avenues for self-enhancement.

Finally, using measures of agency and communion, we were able to replicate the gender results. Specifically, we showed that regardless of agency or communion orientation, participants had greater exchange motivations for an out-group good than for an in-group good, but participants with an agentic orientation had greater exchange motivations for an out-group than did those with a communal orientation. These results further support the argument that the gender effects we observed are due to men's agentic orientation and women's communal orientation.

GENERAL DISCUSSION

The endowment effect, or the result that the price people are willing to pay for a particular good is often significantly less than the price they are willing to accept to give up the same good, has been the subject of considerable research. Although loss aversion has been the traditional explanation for this effect, researchers have begun to argue that ownership actually enhances the appeal of the good because a possession becomes tied to the self (Gawronski et al. 2007; Morewedge et al. 2009). If ownership accounts for the endowment effect, varying the possession-self link using theoretically meaningful moderators should have an impact on the magnitude of the endowment effect. The current work tests three such moderators: social self-threat, social identity, and gender. These moderators affect selling prices in the manner predicted by a possession-self link explanation, thus providing support for the ownership account for the endowment effect.

The endowment effect has been described as the most robust representation of loss aversion (Rozin and Royzman 2001). There is, however, a growing list of research that calls into question the ability of loss aversion to adequately explain the endowment effect. The loss aversion account maintains that ownership does not increase the attractiveness of a good (Kahneman et al. 1991). Regarding the social identity associations of a good, the loss aversion account would predict that sellers are equally attracted to a good as are buyers, regardless of the good's social identity associations. In other words, social identity should have a main effect on prices across both buyers and sellers, and no change should occur in the magnitude of the endowment effect. We find, however, that social identity associations affect selling prices, which suggests that such associations have a stronger effect on owners' evaluations. The ownership account would attribute this result to the social identity association changing the strength of the possession-self link. These results extend previous findings that demonstrate that endowment effect is higher for goods that are associated with self (Tom 2004) and for goods that sellers have owned for a long time (Strahilevitz and Loewenstein 1998). These results also are consistent with Morewedge et al. (2009), who demonstrate that the endowment effect does not occur when buyers have previously owned an identical good, thereby providing support for the ownership explanation.

The fact that there is burgeoning support for the ownership account for the endowment effect means that we may have to revise our thinking with regard to other endowment effect findings. For instance, Aggarwal and Zhang (2006) demonstrate that sellers have higher selling prices when norms of communal, rather than exchange, relationships are salient. Using an ownership explanation, this result suggests that people are more closely tied to their possessions when norms of a communal relationship are salient. This also implies that other moderators of the endowment effect context including specific emotions, and attributes of a good that have focused on loss aversion explanations, could be reexamined using an ownership lens (Ariely, Huber, and Wertenbroch 2005; Brenner et al. 2007; Carmon and Ariely 2000; Lerner et al. 2004).

Although our findings question the loss aversion explanation for the endowment effect, this does not necessarily imply that loss aversion does not exist. Loss aversion or the
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idea that individuals typically expect losses to be more impactful than gains is a well-established phenomenon. The current research attempts to demonstrate a particular instance in which ownership provides a better explanation than loss aversion. As Kahneman (1992, 301) noted, “loss aversion does not affect all transactions. The critical distinction is between goods held for use and goods held for exchange.” Building on this, Mandel (2002) demonstrates the impact of motivational factors (e.g., transaction demand) on the endowment effect. These, along with the findings from our research, imply that motivational factors can often override the impact of loss aversion in influencing valuations for goods. Future research should focus on identifying how motivational factors and loss aversion can jointly explain various consumer behavior phenomena.

There are various substantive implications of these findings regarding the role of ownership. If ownership increases the valuation consumers place on objects, then marketers could benefit from any action that creates feelings of ownership before actual purchase. A number of marketing actions, such as free trials, sampling, and coupons, are likely successful because of their ability to create feelings of ownership, which may be successful in driving up valuations of a good. For instance, a consumer given a free trial of a couch may be more willing to pay for the couch after 30 days than someone purchasing the couch in the store. Clothing stores may increase feelings of ownership by having customers try on products. Sporting goods stores may want to allow customers to try out equipment in the store to increase feelings of ownership.

The fact that sampling, free trials, and coupons are successful in inducing trial is not surprising. However, the findings from the current research suggest that there may be a variety of moderators of this effect, which may provide useful directions for future research. For instance, according to Maddux et al. (2010), some cultures or regions may be more focused on self-enhancement through material goods. If this is the case, these regions or cultures or customer segments where goods are used for self-enhancement may find a reluctance to upgrade to new items or return faulty products after a recall because of the strength of the possession-self link. These individuals who are more prone to self-enhance using goods also may be more willing to entertain promotional offers such as gift certificates, sampling, and buybacks (Sen and Johnson 1997). Alternatively, circumstances under which consumers evaluate these offers (e.g., self-threat) may affect their valuations. Further research should investigate these possibilities.

Aside from providing support for the ownership account for the endowment effect, our research provides insights into gender differences as they relate to intergroup comparisons and how these relate to valuations of identity-linked goods. Men’s agentic nature, which makes them more likely to perceive the self as separate from others, makes them more likely to devalue out-group goods. In contrast, women have a communal nature, which makes them less likely to attend to out-group differences, unless the intergroup comparisons are made salient. While prior research has suggested that women are more likely to include out-groups into their self-concepts (Wiltermuth et al. 2009), to our knowledge we are the first to demonstrate that there are attention differences among men and women that result in varying propensities to engage in intergroup comparisons. These gender differences have important implications for valuations of identity-linked goods among buyers and sellers.

Our findings regarding gender differences also suggest that in certain situations marketers may benefit from prompting female consumers to make intergroup comparisons, particularly if they are marketing the in-group brand for these women. Without making the comparisons salient, women may be less likely to spontaneously engage in comparisons with competitor out-group brands. If a company wants to deter purchase of such competitor brands among women, they should use marketing efforts (e.g., advertising) to make salient the identity differences across the brands. A good example of such an advertisement is Apple’s Mac versus PC ads that depict the user identities of the two brands.

Some limitations of the current research are worth highlighting and suggest useful avenues for future research. One limitation is that all of the studies in this research focused on a single type of identity setting (i.e., university identity). Men and women did not differ in terms of their average attachment toward either their own university or the rival university. However, it is possible that men are more likely than women to draw extreme distinctions between in-groups and out-groups in terms of sports team affiliations. Future research could replicate these findings with other types of identity-associations (e.g., sports team affiliations), in an effort to either strengthen or reverse the gender effects observed in this research. Further, it would be interesting to consider whether men and women had different interpretations of what ownership signifies in an endowment effect context. Examining how men and women respond to losses, particularly when they pertain to different types of losses (e.g., monetary vs. social), will provide additional insights concerning the impact of gender and identity on loss aversion.

Another limitation of the current research is that we only focus on one type of self-threat (i.e., social self-threat). An interesting question is whether these results will hold in endowment effect contexts when a person experiences a different type of self-threat (e.g., job loss). Varying the type of self-threat could affect the type of social identity that is made salient, which in turn could lead to a different range of predictions regarding the types of goods that could be valued. For example, an object associated with college may be less effective at helping a person cope with a threat to his or her intelligence. It would also be interesting to examine how possession-self associations and subsequent valuation of a good associated with an identity are affected by a threat that pertains to that identity.

Future research could provide further evidence of the ownership account, by examining other theoretically meaningful moderators and boundary conditions. For example,
ing an item creates an association between the self and the item, resulting in implicit self-evaluations being transferred to the chosen object. In traditional endowment effect experiments, participants are given items to evaluate. It would be worthwhile to examine the moderating effect of choice on the endowment effect. The ownership account would predict that choice leads to a stronger possession-self link and, consequently, to higher selling prices. Another interesting extension of our findings is to examine whether payment method (cash vs. credit card) in an endowment effect context will result in changing the effects observed here. According to Sivanathan and Pettit (2010), high-status goods will be especially attractive to buyers who purchase using a credit card since there is no psychological pain like that which accompanies cash expenditures. Absent the psychological pain of a cash transaction, even buyers may be able to mimic the pattern of sellers if they are able to imagine themselves as owners of a good. This would yield rich insights regarding the ownership explanation and help identify additional boundary conditions for the endowment effect. This, along with other future research suggestions described previously, would provide useful insights to strengthen our understanding of the effect of social identity on consumers'valuations of goods.

APPENDIX

SOCIAL SELF-THREAT MANIPULATION
(STUDIES 1–3)

Please think about a relationship that you have had that fits the description given below and picture in your mind the person with whom you have had that relationship. Please make sure that the person and the relationship you have chosen to focus on are meaningful and important to your life. After reading the relationship description, turn to the next page.

Please think about a relationship you have had in which you have felt uncomfortable being alone and worried that the other person didn’t value you as much as you valued them.

Now, take a moment and try to get a visual image in your mind of this person. What does this person look like? What is it like being with this person? You may want to remember a time you were actually with this person. What would he or she say to you? What would you say in return? How do you feel when you are with this person? How would you feel if they were here with you now? After the visualization, write a sentence or two about your thoughts and feelings regarding yourself in relation to this person.

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