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For Whom Is Parting With Possessions More Painful? Cultural Differences in the Endowment Effect

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Abstract

The endowment effect—the tendency for owners (potential sellers) to value objects more than potential buyers do—is among the most widely studied judgment and decision-making phenomena. However, the current research is the first to explore whether the effect varies across cultures. Given previously demonstrated cultural differences in self-construals and self-enhancement, we predicted a smaller endowment effect for East Asians compared with Westerners. Two studies involving buyers and sellers of a coffee mug (Study 1a) and a box of chocolates (Study 1b) supported this prediction. Study 2 conceptually replicated this cultural difference by experimentally manipulating independent and interdependent self-construals. Finally, Study 3 provided evidence for an underlying self-enhancement mechanism: Cultural differences emerged when self-object associations were made salient, but disappeared when self-object associations were minimized. Thus, the endowment effect may be influenced by the degree to which independence and self-enhancement (vs. interdependence and self-criticism) are culturally valued or normative.

Keywords

culture, self-construal, self-enhancement, endowment effect, decision making

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Parting with possessions is often painful. It can be surprisingly difficult to throw away a comfortable but worn out pair of jeans, give away a child's outgrown toys, or sell the family home. Even in the absence of sentimental value, however, simply owning an object can enhance its perceived worth. Indeed, randomly dividing individuals into buyers and sellers of a coffee mug leads sellers to value the mug more than buyers, a robust bias that has been labeled the *endowment effect* (Kahneman, Knetsch, & Thaler, 1990; Knetsch, 1989; Thaler, 1980). The endowment effect has been replicated across dozens of studies with myriad target objects, such as basketball tickets (Carmon & Ariely, 2000), bottles of wine (Van Dijk & Van Knippenberg, 1998), and chocolates (e.g., Knetsch, 1989). The robustness and generalizability of the effect is most tellingly demonstrated in replications among children too young to have learned about economic conventions (e.g., Harbaugh, Krause, & Vesterlund, 2001) and with nonhuman primates, such as chimpanzees and capuchin monkeys (Brosnan et al., 2007; Lakshminaryanan, Chen, & Santos, 2008).

The most common explanation for the endowment effect is loss aversion (Kahneman & Tversky, 1979). In other words, people feel more pain when losing something than they feel pleasure when acquiring it; thus, valuations of prospective sellers are consistently higher than those of prospective buyers. Over time, other contributing factors, such as differences in salient emotions (e.g., Peters, Slovic, & Gregory, 2003) or features of the transaction (e.g., Carmon & Ariely, 2000), seller-buyer gaps in attachment to the item (e.g., Strahilevitz & Loewenstein, 1998), and egocentric empathy gaps (e.g., Van Boven, Dunning, & Loewenstein, 2000), have been proposed to explain the etiology of the effect. However, a growing body of evidence suggests that the endowment effect may actually be a type of self-referent cognitive bias due to mere ownership of an object (e.g., Beggan, 1992; Gawronski, Bodenhausen, & Becker, 2007; Morewedge, Shu, Gilbert, & Wilson, 2009). This evidence suggests that simply owning an object can activate an automatic association between the object and the self. Because of the intrinsic tendency to enhance the self, this self-object association subsequently boosts the object's perceived

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value relative to when the object is not owned, or relative to when self-object associations are not present (Gawronski et al., 2007). In fact, recent research has suggested that mere ownership can offer a better account for endowment effects than loss aversion does (Morewedge et al., 2009).

Although research has identified a number of contextual moderators of the endowment effect—such as transaction demand (Mandel, 2002) and item attractiveness (Brenner, Rottenstreich, Sood, & Bilgin, 2007)—it is remarkable that almost all endowment-effect research on human populations has been conducted with individuals from Western (e.g., North American, Western European) cultures. Such heavy reliance on Western subject populations is problematic as it may give a biased view of the nature of psychological phenomena, overestimating the robustness of certain effects and limiting insight into potential cultural variance and moderating conditions (see Henrich, Heine, & Norenzayan, 2010, for a discussion of the unusual nature of Western samples for many psychological phenomena). Indeed, even very robust psychological tendencies such as cognitive dissonance (Heine & Lehman, 1997) and the fundamental attribution error (Morris & Peng, 1994) appear in dramatically different forms when studied in East Asian cultural contexts. In addition, although self-enhancement tendencies have been found to be robust in Western cultures (see Baumeister, 1998, for a review), self-enhancement is often absent for individuals from Eastern cultures, where tendencies toward self-criticism are more prominent (e.g., Heine & Hamamura, 2007; Kitayama, Markus, Matsumoto, & Norasakkunkit, 1997; Markus & Kitayama, 1991). Self-enhancing tendencies are associated with independent self-construals and self-expression, and are especially pronounced in Western cultural contexts. In Eastern cultural contexts, however, interdependent self-construals are salient, and they are associated with a deemphasis of individual expression and a general tendency toward self-criticism rather than self-enhancement (e.g., Heine, Lehman, Markus, & Kitayama, 1999; Kitayama et al., 1997; Markus & Kitayama, 1991).

Thus, if the endowment effect is at least partly a function of the tendency to value the self—and by extension the tendency to value objects that are owned and thus a part of the self relative to nonowned objects—then one can expect the effect to differ across cultures. Such cultural differences are likely due to differing self-construals: Independent self-construals that are predominant in the West and associated with self-enhancement should lead to a larger endowment effect, and interdependent self-construals that are predominant in the East and associated with self-criticism should lead to a smaller endowment effect.

We tested these predictions for the first time across four studies. In two initial studies (Studies 1a and 1b) using two different target objects (coffee mugs and boxes of chocolates), we examined our prediction that the endowment effect would be larger for individuals from Western cultures compared with individuals from Eastern cultures. In Study 2, we primed independent or interdependent self-construals, expecting that experimentally manipulating self-construals would conceptually replicate cultural differences. Finally, in Study 3, we investigated our prediction that culturally related tendencies to self-enhance or self-criticize drive these cultural differences.

Study 1a

Method

Participants. One hundred sixteen undergraduates (81 females, 35 males) at Northwestern University participated in exchange for a payment of $10. Fifty-nine participants (39 females, 20 males) described their ethnic background as White or European and their citizenship as American. Fifty-seven participants (42 females, 15 males) described their ethnic background as Asian or East Asian. Sixteen of these participants were U.S. citizens, and other nationalities included China (22), Korea (5), Taiwan (5), Hong Kong (1), and Canada (1). Seven Asian participants did not indicate their nationality.

Procedure. Our procedure was modeled after that of Kahneman et al. (1990). Participants entered a laboratory where several white ceramic coffee mugs carrying the logo of Northwestern University were displayed (the actual $4.49 purchase price of the mugs was not indicated). Participants were randomly assigned to the role of either buyer or seller, were told that they would participate in a study on decision making, and were then given one of two experimental questionnaires, depending on their assigned role.

Instructions to sellers indicated that they now owned a Northwestern mug; they could keep the mug and take it home after the study, or they could choose to sell the mug during the study. They were then presented with a list of prices ranging from $0.00 to $10.00 in 50¢ increments. Sellers were asked to indicate whether, for each price, they would choose to (a) sell the mug to the experimenter and receive that amount of money or (b) not sell the mug at that price and keep the mug. Instructions for buyers indicated that they would be given an opportunity to purchase the Northwestern mug from the experimenter. They were presented with the same list of prices ranging from $0.00 to $10.00 in 50¢ increments and were asked to indicate whether, for each price, they would choose to (a) buy the mug from the experimenter at that price or (b) not buy the mug at that price. Buyers and sellers were told that the experimenter would then randomly select one of the prices, and their choice for that price (i.e., sell/not sell, or buy/not buy) would be honored. We considered the valuation of the mug to be the lowest price at which sellers agreed to sell the mug and the highest price at which buyers agreed to buy the mug (Kahneman et al., 1990).

Results and discussion

We first ran an overall 2 (role: buyer vs. seller) × 2 (culture: European American vs. Asian and Asian American) between-subjects analysis of variance (ANOVA). A significant main

effect for role emerged, indicating a significant endowment effect in the overall sample: Owners' average selling price (M = \$4.83, SD = 2.18) was significantly higher than buyers' average purchase price (M = \$2.34, SD = 1.80), $F(1, 112) = 42.93$, $p < .001$, $\eta_p^2 = .277$. Although the endowment effect was significant in both the European American sample (M_{buyer} = \$1.78, SD = 1.52; M_{seller} = \$5.02, SD = 2.20), $F(1, 112) = 39.52$, $p < .001$, $\eta_p^2 = .261$, and the Asian and Asian American sample (M_{buyer} = \$3.08, SD = 1.90; M_{seller} = \$4.68, SD = 2.19), $F(1, 112) = 9.14$, $p < .01$, $\eta_p^2 = .075$, there was a significant Culture × Role interaction, $F(1, 112) = 4.93$, $p = .028$, $\eta_p^2 = .042$, indicating that the endowment effect was significantly larger in the Western sample than in the Eastern sample (see the top panel of Fig. 1).

Study 1b

The goal of Study 1b was to replicate Study 1a with different Western and Eastern cultural samples and a different target object.

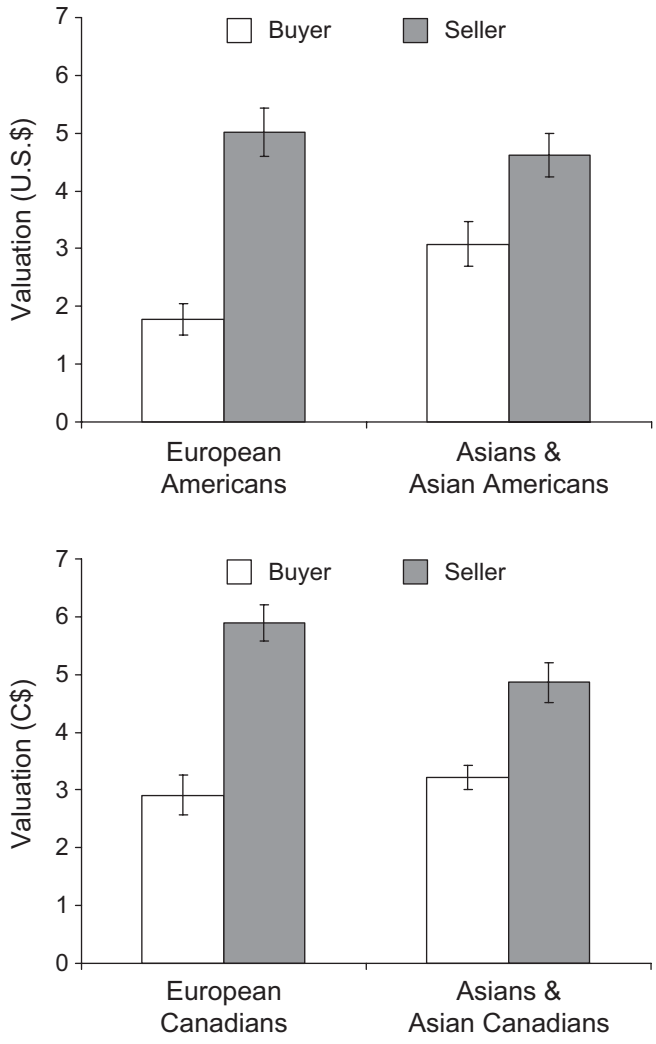

Fig. 1. Valuation of objects as a function of role and culture. The top panel presents results from Study 1a (coffee mugs), and the bottom panel presents results from Study 1b (boxes of chocolates). Error bars represent standard errors of the mean.

Method

Participants. One hundred five undergraduates (74 females, 31 males) at the University of Waterloo in Canada participated in exchange for a payment of \$5 Canadian (C\$5). Forty-five participants (34 females, 11 males) described their ethnic background as White or European and their citizenship as Canadian. Sixty participants (40 females, 20 males) described their ethnic background as Asian or East Asian. Fifty-eight of these participants were Canadian citizens, 1 was from the United Kingdom, and 1 was from China.

Procedure. The procedure was the same as that of Study 1a except that participants made decisions about buying or selling a box of chocolates (as in Study 1a, the purchase price of the item, which was C\$4.50, was not indicated).

Results and discussion

An overall 2 (role: buyer vs. seller) × 2 (culture: European Canadian vs. Asian and Asian Canadian) between-subjects ANOVA revealed a significant endowment effect in the overall sample: Owners' average selling price (M = C\$5.36, SD = 1.52) was significantly higher than buyers' average purchase price (M = C\$3.09, SD = 1.51), $F(1, 101) = 57.24$, $p < .001$, $\eta_p^2 = .362$. As in Study 1a, although a significant endowment effect emerged in both the European Canadian sample (M_{buyer} = C\$2.91, SD = 1.75; M_{seller} = C\$5.89, SD = 1.33), $F(1, 101) = 43.25$, $p < .001$, $\eta_p^2 = .300$, and the Asian and Asian Canadian sample (M_{buyer} = C\$3.21, SD = 1.34; M_{seller} = C\$4.87, SD = 1.53), $F(1, 101) = 16.14$, $p < .001$, $\eta_p^2 = .138$, a significant Culture × Role interaction emerged, $F(1, 101) = 4.63$, $p = .034$, $\eta_p^2 = .044$, indicating that the effect was significantly larger in the European Canadian sample than in the Asian and Asian Canadian sample (see the bottom panel of Fig. 1).

Study 2

The goal for Study 2 was to test whether differences in self-construal orientation can help account for the cross-cultural variation in the endowment effect. To this end, we primed participants from a single culture with different self-construals, expecting that independent self-construal priming would lead to a larger endowment effect than interdependent self-construal priming, mirroring the cultural effects in Studies 1a and 1b.

It is important to note that we did not seek to show that self-construals mediated the effect of culture because significant methodological difficulties exist when using self-report, individual differences scales across cultural samples (e.g., Heine, Lehman, Peng, & Greenholtz, 2002; Kitayama, 2002). Therefore, we explicitly employed a moderation-of-process design (Spencer, Zanna, & Fong, 2005), seeking to provide experimental (rather than correlational) evidence for the causal role of self-construals by directly manipulating the proposed mechanism to conceptually replicate cultural differences.

Method

Participants. Ninety-seven undergraduate students (47 females, 50 males) from Yunnan Normal University in China participated in the study in exchange for course credit.

Procedure and experimental manipulations. The procedure largely followed that of the first two studies. However, at the outset of Study 2, participants were asked to complete a "Student Information Survey." This survey included the self-construal manipulation, using instructions adapted from prior work (e.g., Trafimow, Triandis, & Goto, 1991). Participants in the interdependent self-construal condition were asked to write a brief essay about their friendships and camaraderie with other people and how they might foster these relationships. Those in the independent self-construal condition were asked to write a brief essay about their unique character and skills, and how they might stand out compared with other people. Two participants who failed to complete this priming task as instructed were excluded. Those in the control condition did not complete a priming task as part of the survey.

Participants were then told that they would proceed to a separate study about decision making. The remaining procedure was the same as in Studies 1a and 1b except that participants made decisions about buying or selling a stainless-steel coffee mug displaying the Yunnan Normal University logo (as in Studies 1a and 1b, the purchase price, 23 renminbi, or ¥23, was not indicated). Participants were presented with a list of prices ranging from ¥0 to ¥40 in ¥2 increments. All study materials were translated into Chinese, and equivalence was verified through back-translation.

Results and discussion

An overall 2 (role: buyer vs. seller) × 3 (prime: independent self-construal vs. interdependent self-construal vs. control) between-subjects ANOVA revealed a significant endowment effect: Buyers' average purchase price (M = ¥16.08, SD = 7.60) was significantly lower than sellers' average sale price (M = ¥25.72, SD = 10.78), $F(1, 89) = 28.15$, $p < .001$, $\eta_p^2 = .240$. This effect was qualified by a significant Role × Prime interaction, $F(2, 89) = 3.31$, $p = .041$, $\eta_p^2 = .069$, indicating that the endowment effect was moderated by priming condition: The endowment effect was significant in the control condition (M_{buyer} = ¥16.82, SD = 7.91; M_{seller} = ¥24.88, SD = 10.12), $F(1, 89) = 6.45$, $p = .013$, $\eta_p^2 = .068$, and in the independent self-construal condition (M_{buyer} = ¥14.38, SD = 7.05; M_{seller} = ¥31.00, SD = 8.55), $F(1, 89) = 24.93$, $p < .001$, $\eta_p^2 = .219$. However, the effect was not significant in the interdependent self-construal condition (M_{buyer} = ¥17.07, SD = 8.00; M_{seller} = ¥22.18, SD = 11.83), $F(1, 89) = 2.51$, $p = .12$, $\eta_p^2 = .027$ (see Fig. 2).

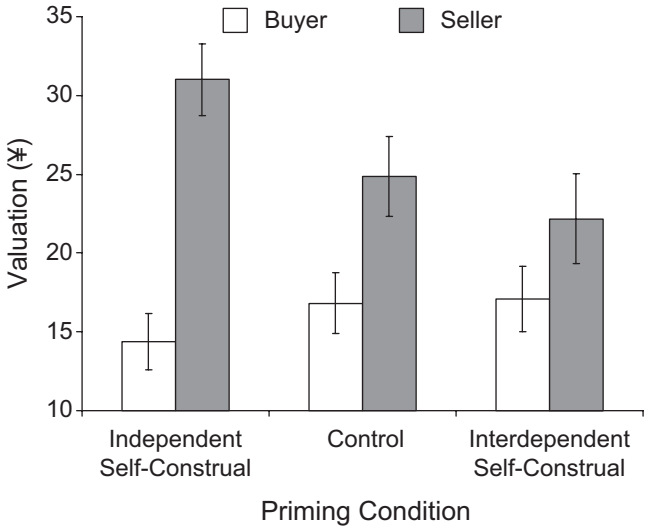

Fig. 2. Valuation of university coffee mugs as a function of role (buyer vs. seller) and priming condition in Study 2. Error bars represent standard errors of the mean.

Planned contrasts revealed that the endowment effect was significantly larger in the independent self-construal condition than in the interdependent self-construal condition, $F(1, 89) = 6.18$, $p = .015$, $\eta_p^2 = .065$, and was marginally larger in the independent self-construal condition than in the control condition, $F(1, 89) = 3.48$, $p = .065$, $\eta_p^2 = .038$. No difference emerged between the interdependent self-construal condition and the control condition, $F(1, 89) = 0.42$, $p = .517$, $\eta_p^2 = .005$. Thus, priming self-construals mirrored previously demonstrated cultural differences, with the largest endowment effect emerging in the independent self-construal condition, and the smallest (nonsignificant) effect emerging in the interdependent self-construal condition.

Study 3

Results from Study 2 demonstrated that self-construal priming can mirror the impact of cultural differences. Yet, because self-construals are associated with various cognitive, motivational, and affective psychological phenomena (Markus & Kitayama, 1991), it is important to isolate the underlying mechanism further. As noted earlier, we believe that cultural differences in self-enhancement (which are positively correlated with independent self-construals) and self-criticism (which are positively correlated with interdependent self-construals) may cause the observed cultural variation. If the endowment effect is at least partly driven by self-enhancing tendencies to value objects associated with the self more than objects not associated with the self, then cultural differences in the endowment effect should be stronger when self-object associations are particularly salient and weaker when self-object associations are minimized. Thus, in Study 3, we primed Japanese and Canadian participants to associate or not associate themselves with a coffee mug, expecting cultural differences in the endowment effect to emerge more strongly

in the former condition than in the latter condition. Priming object identification would also help us rule out a potential alternative explanation for the results in Study 2: that priming relationships in the interdependent self-construal condition may have caused participants to sell for a lower price.

Method

Participants. Seventy-seven undergraduates (57 female, 20 male) at the University of British Columbia in Canada and 56 undergraduates (40 female, 16 male) at Kansai University in Japan participated in this study in exchange for course credit or monetary payment. All participants in Canada described their ethnicity as White or European. Eight were American citizens; 69 were Canadian citizens. All participants in Japan were Japanese citizens.

Procedure and experimental manipulations. Upon arrival, participants were presented with a white ceramic Starbucks mug and were informed that they would first perform a 5-min persuasive-writing task about the mug (the C$5.45 and ¥850 prices of the mugs were not indicated). Participants then read instructions for the writing task adapted from Buhrmester and Swann (2009). In the object-association condition, participants wrote about how the mug was important to them and had a specific, personal meaning. In the no-object-association condition, participants wrote about how the mug was unimportant to them and had little or no personal meaning. Experimenters then randomly assigned participants to the role of buyer or seller. All other aspects of the procedure were identical to those in previous studies, except that Japanese participants were presented with a list of prices ranging from ¥0 to ¥1000 in ¥50 increments. All study materials were translated into Japanese, and equivalence was verified through back-translation. Analyses were conducted in Canadian dollars after Japanese prices were converted using the average exchange rate during the time period that the Japanese data were collected (C$1 = ¥85.66).

Results and discussion

A 2 (writing task: object association vs. no object association) × 2 (role: buyer vs. seller) × 2 (culture: European Canadian vs. Japanese) between-subjects ANOVA revealed a significant overall endowment effect: Owners' average selling price (M = C$4.39, SD = 2.63) was higher than buyers' average purchase price (M = C$3.22, SD = 2.58), $F(1, 125) = 8.08$, $p < .01$, $\eta_p^2 = .061$.

However, this effect was qualified by the predicted three-way Writing Task × Culture × Role interaction, $F(1, 125) = 8.25$, $p < .01$, $\eta_p^2 = .062$. We decomposed this interaction to test our specific prediction that the cultural difference would emerge in the object-association condition, but not in the no-object-association condition. As predicted, the Culture × Role interaction was significant in the object-association condition, $F(1, 125) = 13.56$, $p < .001$, $\eta_p^2 = .098$ (see Fig. 3). When the self-object associations were made salient, European Canadians showed a significant endowment effect (M_{buyer} = C$2.57, SD = 2.08; M_{seller} = C$5.73, SD = 2.88), $F(1, 125) = 16.31$, $p < .001$, $\eta_p^2 = .115$, whereas Japanese showed a nonsignificant but distinct tendency toward a reverse endowment effect (M_{buyer} = C$6.09, SD = 3.06; M_{seller} = C$4.94, SD = 2.44), $F(1, 125) = 1.73$, $p = .19$, $\eta_p^2 = .014$. In the no-object-association condition, the Culture × Role interaction was nonsignificant, $F(1, 125) = 0.80$, $p = .70$, $\eta_p^2 = .001$, with Japanese showing a marginally significant endowment effect (M_{buyer} = C$2.56, SD = 1.27; M_{seller} = C$4.13, SD = 2.68), $F(1, 125) = 3.03$, $p = .08$, $\eta_p^2 = .115$, and European Canadians showing a nonsignificant effect (M_{buyer} = C$2.21, SD = 1.85; M_{seller} = C$3.33, SD = 2.20), $F(1, 125) = 2.24$, $p = .14$, $\eta_p^2 = .018$ (see Fig. 3).

Within-culture comparisons further elucidated this pattern. European Canadians had a marginally larger endowment effect in the object-association condition than in the no-object-association condition, $F(1, 125) = 3.56$, $p = .06$, $\eta_p^2 = .028$. In contrast, the endowment effect for Japanese was significantly larger in the no-object-association condition than in the object-association condition, $F(1, 125) = 4.69$, $p = .03$, $\eta_p^2 = .036$.

Thus, when object associations were made salient, European Canadians showed a significant endowment effect, whereas Japanese showed a striking trend toward a reversal of the normally robust endowment effect. However, this surprising pattern of results is actually consistent with the well-documented tendency toward self-criticism for Japanese (Heine & Hamamura, 2007; Heine et al., 1999; Kitayama et al., 1997). Within-culture comparisons showed that Japanese had a significantly stronger endowment effect when self-object associations were minimized than when self-object associations were salient, whereas the reverse pattern emerged for European Canadians, evidence that cultural differences in the endowment effect are a function of cultural differences in self-enhancement and self-criticism.

General Discussion

The endowment effect is one of the most robust findings in behavioral decision research. Indeed, Lakshminaryanan et al. (2008), who documented the effect among capuchin monkeys, suggested that the effect may reflect "cognitive strategies present in our primate lineage for considerable phylogenetic time" (p. 3843).

The current research, however, is the first to find reliable cultural variation in the size of the endowment effect. We hypothesized that if differences between buyers' and sellers' valuation of objects is at least partly due to tendencies to value the self and related objects more positively than objects not related to the self (Beggan, 1992; Gawronski et al., 2007; Morewedge et al., 2009), then the size of the endowment effect should vary across cultures. Because interdependent self-construals are less associated with positive regard for the self

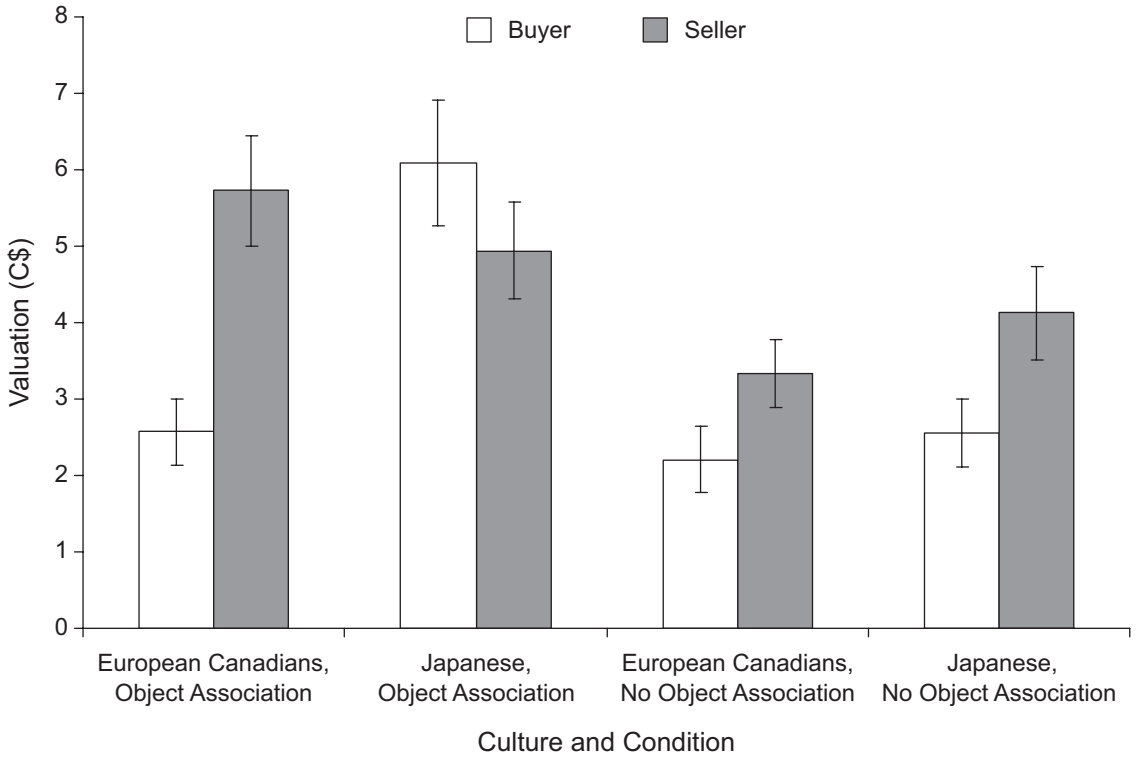

Fig. 3. Valuation of Starbucks coffee mugs as a function of role (buyer vs. seller), culture, and experimental condition in Study 3. Error bars represent standard errors of the mean.

than independent self-construals are (e.g., Heine et al., 1999; Markus & Kitayama, 1991), mere ownership of an object may not elicit enhancement of its perceived value (relative to the value of a similar, nonowned object) as much in Eastern cultures as in Western cultures. This explanation was supported in Study 2, in which an independent self-construal prime increased the size of the endowment effect compared with an interdependent self-construal prime, and in Study 3, in which cultural differences in the effect emerged when self-object associations were salient, but disappeared when self-object associations were minimized. These results are consistent with cultural differences in self-enhancement and self-criticism, and we believe they are unlikely to be due to loss aversion, as individuals from Eastern cultures tend to be more prevention focused and biased toward the status quo than Westerners are (e.g., Lee, Aaker, & Gardner, 2000).

There are a number of important avenues for future research to explore. First, because we did not experimentally manipulate culture in these studies (e.g., Hong, Morris, Chiu, & Benet-Martínez, 2000), researchers should seek to replicate the observed effects by priming bicultural participants with cultural icons prior to testing the endowment effect, to verify the causal role of culture. Second, given that East Asians tend to show relationship-enhancement tendencies (Endo, Heine, & Lehman, 2000), it is possible that they might show a larger endowment effect than Westerners for objects that have implications for interpersonal relationships, such as a gift from a friend, partner, or colleague. Furthermore, future research should help determine whether cultural values or cultural norms in object valuation and self-enhancement drive the observed effects (e.g., Zou et al., 2009). Finally, it is important to investigate these effects outside the lab, in field contexts. It would be interesting, for example, to compare the extent to which game-show contestants in different countries are willing to part with endowed objects.

We also believe that cultural variance in the endowment effect can explain a number of real-world phenomena. Research has demonstrated that East Asian consumers are generally faster to switch to new technologies than Western consumers are (Takada & Jain, 1991). For example, as of 2010, considerably more Japanese households (84%) than U.S. households (53%) had high-definition televisions, despite the fact that direct incentives (e.g., government subsidies) to adopt this technology were considerably stronger in the United States (Japanese Ministry of Internal Affairs and Communications, 2010; The Nielsen Company, 2010). In addition, the average age of cars (6.58 years in Japan, 9.2 years in the United States; Automobile Inspection & Registration Information Association, 2004; National Automobile Dealers Association, 2008) and houses (26 years in Japan, 44 years in the United States; Minami, 2005) is lower in Japan than in the United States—statistics that are highly consistent with our experimental results. Cultural differences in the endowment effect also suggest that sales tactics such as free

trials, lowballing, and bait and switch may be less effective in cultural contexts where the sting of material loss may be more easily assuaged. More generally, as business and political environments become more globalized and diverse, it is increasingly important to study how decision-making tendencies differ across cultural contexts, so that researchers, practitioners, and policymakers can have a more complete and accurate understanding of how decisions are made in a truly global world.

Declaration of Conflicting Interests

The authors declared that they had no conflicts of interest with respect to their authorship or the publication of this article.

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