A Culture-by-Context Analysis of Endowment Effects

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Abstract

The endowment effect describes people's tendency to ask for more money when selling objects than they are willing to pay when buying these objects. Previous research found that Asian participants showed smaller endowment effects than Western participants. These results were explained by culture-specific self-beliefs being transferred onto the endowed object. Yet, Asian self-concepts are not only more interdependent, but also more situation-contingent than Western self-concepts. Thus, we predicted cultural differences in endowment effects to depend on social contexts. In two studies, we asked participants to imagine being either the owner or the buyer of a coffee mug, and to imagine using this mug in either a public or private context. Assessing participants' monetary value of the mug, we found that Asians showed endowment effects in private but not in public contexts. In contrast, Westerners showed endowment effects across both social contexts. We discuss possible mechanisms that may underlie these findings.

Keywords: Endowment Effect; Social Context; Culture; Decision Making; Self-Concept

Introduction

More and more people rely on owning stock shares to improve their income and secure their retirement. One key aspect of successful private (and professional) trading is to find the right moment to buy lucrative options and to sell unprofitable shares. As with many other decisions people face, selecting to buy or to sell relies on elaborate cognitive processes. Researchers in the cognitive science of decision making have provided sophisticated models to predict when people ought to buy or to sell. Yet, most of the decisions people make in everyday life are also influenced by social values, norms, and expectations represented in the presence of others (e.g., Yamagishi, Hashimoto, & Schug, 2008).

In this article, we investigate how the cultural background of an individual and the social context of the transaction influence decision making. We ask, is the willingness-to-pay (WTP) when buying and the willingness-to-accept (WTA) when selling different among East Asian and Western individuals? Moreover, does the social context associated with an object change its valuation by owners versus non-owners across both cultures? Providing answers to these questions, the present research presents two experiments demonstrating a novel interplay between culture and social context in this area of human decision making.

WTP-WTA Price Gaps: the Endowment Effect

One of the most prevalent topics in the decision making literature over the last 30 years has been the gap in monetary value between WTP and WTA (e.g., Horowitz & McConnell, 2002). The psychological phenomenon to overvalue owned objects is known as the endowment effect (Thaler, 1980). In a typical endowment experiment, participants are randomly divided into non-owners versus owners of a certain object (e.g., a coffee mug). While the former group of participants reports the highest price they are willing to buy the non-endowed object for (WTP), the latter group indicates the lowest price they are willing to sell the endowed object for (WTA). While classic economic theory would expect these two to be of similar magnitude, experimental findings have consistently demonstrated significant price gaps between WTP and WTA (e.g., Kahneman, Knetsch, & Thaler, 1990). The robustness of this endowment effect has been shown with a large variety of objects including mugs, chocolates and pens (e.g., Kahneman et al., 1990), with young children (Harbaugh, Krause, & Vesterlund, 2001) as well as with chimpanzees (Brosnan et al., 2007).

Traditionally, it has been advocated that the endowment effect is the result of loss aversion (e.g., Kahneman et al., 1990). That is, the pain associated with the possibility of losing an object outweighs the pleasure associated with the possibility of gaining such an object (Kahneman & Tversky, 1979). However, more recent research has proposed that the affective-cognitive state of merely owning an object might underlie the endowment effect (e.g., Morewedge, Shu, Gilbert, & Wilson, 2009). In other words, being the owner compared to not being the owner of an object might change how people think and feel about the object in the present rather than it might influence the anticipated pain associated with its loss in the future. Evidence presented in support of this position includes findings that endowment effects increase for objects that are closely connected to the self (Tom, 2004), for objects that have been possessed for longer durations (Strahilevitz & Loewenstein, 1998), and for objects that can compensate threats to the self (Dommer & Swaminathan, 2013). Taken together these findings are in line with theorizing that being the owner of an object associates the self (i.e., the cognitive representation of one's identity) with the object (Beggan, 1992). Through this self-object association, the object gains social characteristics, and implicit beliefs about the self are transferred onto the object (Gawronski, Bodenhausen, & Becker, 2007).

Endowment Effects across Cultures and Contexts

Socially shared values, norms and beliefs, that constitute an individual's culture, significantly impact how people think about themselves (Markus & Kitayama, 1991). For example, individuals from Western cultures tend to emphasize their uniqueness and view themselves as independent from others, whereas individuals from East Asian cultures view themselves as interdependent and connected to the people around them (Markus & Kitayama, 1991). As a result, East Asians are more likely to conform to social roles (Kim & Markus, 1999), and they tend to be more self-critical in an attempt to fit in and fulfil other's expectations (Kitayama, Markus, Matsumoto, & Norasakkunkit, 1997).

If cultural beliefs affect how people view themselves, and if endowment effects result from self-beliefs being transferred onto the endowed object, then culture could impact how much people value the object. Consequently, the magnitude of the endowment effect would be different across cultures. Empirical findings support such theorizing. Comparing two cultural groups with divergent self-concepts, endowment effects for coffee mugs and boxes of chocolates were found to be greater for European than Asian Americans (Maddux et al., 2010, Study 1). To demonstrate the causal effect of self-concepts on the magnitude of endowment effects, Maddux and colleagues experimentally increased the salience of independent or interdependent self-concepts in participants from a single culture (2010, Study 2). In an independent-self prime condition, Chinese participants were led to write a brief essay about their unique character and difference from others, whereas in an interdependent-self prime condition they wrote about their friendships and relatedness with others. Results from the subsequent endowment experiment revealed that Chinese participants primed with an interdependent self-concept showed significantly smaller endowment effects compared to those primed with an independent self-concept (Maddux et al., 2010, Study 2).

Another finding from the cross-cultural literature, however, shows that in order to fulfil changing and situation-specific role expectations, East Asian self-concepts tend to be more malleable than Western self-concepts (e.g., Choi & Choi, 2002). For example, one study tested whether the social presence of others would change self-descriptions among East Asians and Westerners. Kanagawa, Cross, and Markus (2001) asked Japanese and American participants to describe themselves in twenty statements. While some of the participants were left to respond alone, others responded in the presence of their professor, another peer, or a group of peers. Results revealed that Japanese self-descriptions varied more across these situations than American self-descriptions. For example, Japanese students used relatively fewer positive self-descriptions when responding in the presence of their professor, but relatively more positive self-descriptions when responding alone, both compared to responding in the presence of a peer or a group of peers. In contrast, American students did not differ in their self-descriptions across situations (Kanagawa et al., 2001). Another study revealed that Korean, but not American, participants rank ordered the importance of personality traits describing their person differently depending on the target they expected to interact with (Suh, 2002). Specifically, Koreans ranked modesty as the most important self-trait when interacting with a stranger, cheerfulness as most important when interacting with a close friend, but cooperation as most important when interacting with a professor (Suh, 2002).

Taken together, these studies suggest that East Asian, more than Western self-concepts are influenced by social contexts. By extension, it is conceivable that the value of an object that is associated with the self, changes from one situation to another. As reviewed earlier, for people with East Asian cultural background, situations with divergent audiences evoke different self-views. While a more private or personal self is salient when being alone, a more public or official self is salient when being in a situation with another person. It is in the presence of others that their behavior is most influenced by social expectations. As a consequence of the situation-contingent nature of interdependent self-concepts, ownership in public contexts might be less individualistic and more shared. If possessing an object in public contexts is less personal and more communal, then the value of such object might be similar to that in the possession of another person. We therefore hypothesized that among East Asian individuals endowment effects would be absent in public but present in private contexts. In contrast, based on Westerners' stable individualistic self-concepts across situations, we predicted significant endowment effects across contexts in these participants. While the latter prediction is in line with the robustness of endowment effects in the decision science literature, the former prediction highlights the importance of conducting cross-cultural research.

Study 1

To test the possibility that social context modulates endowment effects among individuals from Asian cultures, we conducted a scenario study. Asian students in Great Britain imagined being endowed (or not) with a coffee mug in order to use it in an open plan office (public context) or at home (private context). We predicted the absence of endowment effects in public contexts (Hypothesis 1). In contrast, we expected to observe endowment effects in private contexts (Hypothesis 2).

Method

Participants. Students were approached on campus of a London university, by one of two Asian research assistants and asked to volunteer in a study on consumer behavior. Our final sample consisted of 95 Asian and 16 Asian British participants (56 females, M_{age} = 20.77, SD_{age} = 2.58). Participants completed the study in English.

Design. We employed a 2 (Endowment condition: Owner vs. Buyer) by 2 (Social context: Public versus Private) by 2 (Coffee mug: Plain Mug versus Mercedes Mug) mixed factor design with the latter factor manipulated within participants.

Procedure. Since previous research demonstrated that imagining owning an object is sufficient to elucidate feelings of ownership (e.g., Strahilevitz & Loewenstein, 1998), participants read one of four scenarios that described a situation in which they were to imagine either that they owned a coffee mug or not, and that suggested they were to use said coffee mug in a public or private context. Thus, while half of participants were asked to imagine being the owner/non-owner of a coffee mug and use it in their open plan office, the other half of participants were asked to imagine being the owner/non-owner of a coffee mug and use it at home. Specifically, participants in the public condition read: *"Please imagine the following scenario as vividly as possible. You start a new job after your graduation. In your new job you work in an open plan office. Imagine further that you are the owner (the buyer) of this mug. You can either keep (buy) the mug and use it in your new office, where it is visible to all your colleagues, or sell the mug and receive money for it (or not buy the mug)."* Participants in the private condition read the same initial sentences and then: *"In your new job you work from home. Imagine further that you are the owner (the buyer) of this mug. You can either keep (buy) the mug and use it while you work from home, or sell the mug and receive money for it (or not buy the mug)."* They were then asked whether they wanted to sell / buy or not sell / not buy the mug for 20 prices ranging from £0.50 to £10 in increments of £0.50. Participants reported their willingness to sell / buy the mug twice: once for a plain white mug and once for a plain white mug with a Mercedes logo. The order in which participants saw the two mugs was counterbalanced between participants. We included the white mug with Mercedes logo, because previous research found that Asian participants prefer to choose brand-name products (Kim & Drolet, 2009). Since we did not observe any significant differences between the two mugs, we collapsed results across both mugs. At the end of the study, we assessed participants' demographic information including information about their culture.

Results and Discussion

Data Analysis. We applied General Linear Models (Judd, McClelland, & Ryan, 2009) to directly test our predictions that endowment effects would be absent in public contexts, but present in private contexts. Thus, we transferred our two-way-factorial data into a single factor with 4 levels and applied three planned orthogonal contrasts. The three planned orthogonal contrasts tested for an overall effect of using the mug in public versus private contexts (λ1), the absence of endowment effects in public contexts (λ2), and the presence of endowment effects in private contexts (λ3). For the legitimacy of planned simple effect tests in the absence of significant interaction effects see Howell (1997, p. 415). The overall model fit was significant, F (3,107) = 6.84, $p < .001$, $R^2 = .16$. Results are illustrated in Fig. 1.

Overall Effect of Context. Overall, participants did not value coffee mugs differently in public compared to private contexts, λ1: $b = .02$, $t < 1$, *NS*, CI95% [-.38, .42].

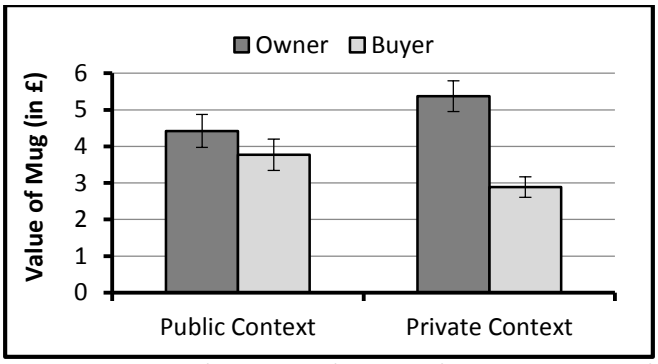

Fig. 1. Monetary values assigned to mugs by Asian owners and buyers when imagining its use in an open plan office (public) or a home office (private) in Study 1. Error bars indicate standard errors.

Public Context. Asian students did not show evidence for endowment effects when imagining using the coffee mug in a public context, λ2: $b = .33$, $t = 1.43$, $p = .26$, CI95% [-.24, .89]. Specifically, Asian owners and buyers of a coffee mug did not differ in the value they ascribed to the coffee mug ($M_{Owner} = 4.42$, $SEM_{Owner} = .45$; and $M_{Buyer} = 3.77$, $SEM_{Buyer} = .43$ respectively). Thus Hypothesis 1 was supported.

Private Context. Unlike in public contexts, Asian students showed clear endowment effects when imagining using the coffee mug in a private context, λ3: $b = 1.24$, $t = 4.38$, $p < .001$, CI95% [.68, 1.80]. Specifically, Asian owners valued the mug significantly more than Asian buyers ($M_{Owner} = 5.37$, $SEM_{Owner} = .42$, and $M_{Buyer} = 2.89$, $SEM_{Buyer} = .28$ respectively). Thus Hypothesis 2 was supported.

Discussion. Study 1 replicates previous research suggesting that individuals from Asian cultures may show reduced endowment effects (Maddux et al., 2010). However, our results extend previous research in demonstrating that this result can depend on the social context people are in. Asian participants showed endowment effects in private but not public contexts.

Study 2

Kanagawa et al. (2001) and Suh (2002) observed that self-concepts of only East Asians not Westerners were situation-specific. Consequently, the interplay between endowment effect and social context is not predicted for individuals from Western cultures. While Study 2 provided a close, although not exact, replication of Study 1, it also included both Western (from the UK) and Asian (from Malaysia) participants. Thus, in Study 2 we tested situation-specific endowment effects across cultures. We predicted that in public contexts, endowment effects would be absent among Malaysian participants, but present among British participants (Hypothesis 1). In contrast, in private contexts, we predicted to observe endowment effects among both Malaysian and British participants (Hypothesis 2).

Method

Participants. Participants came from an English speaking university in Malaysia and a university in London, UK. As in Study 1, they were approached on campus by research

assistants of their own culture and asked to participate in a study on consumer behavior. 156 students (90 males, 66 females) completed an endowment effect scenario questionnaire. 83 of them self-identified as Asian who were born and raised in Malaysia, 73 of them self-identified as White British who were born and raised in the UK. British participants were somewhat older (M_{age} = 23.63, SD_{age} = 4.91) than Malaysian participants (M_{age} = 22.36, SD_{age} = 2.58), $t(102.2) = 1.96$, $p = .052$. Samples in both cultures completed the study in English.

Design. We employed a 2 (Endowment condition: Owner vs. Buyer) by 2 (Social context: Public versus Private) by 2 (Culture: Malaysia versus UK) between-participants design.

Procedure. The procedure was identical to the one of Study 1 with two exceptions. In Study 2, we used a single Starbucks coffee mug as object, which participants imagined owning or buying. Moreover, we used local currencies to assess how much participants valued the mug. Malaysian participants indicated their WTP or WTA in Malaysian ringgit (20 prices ranging from MYR 2.50 to MYR 50 in increments of MYR 2.50). British participants indicated their WTP or WTA in British Pounds Sterling (20 prices ranging from GBP 0.50 to GBP 10 in increments of GBP 0.50). Importantly, both scales corresponded in their exchange rate (1 GBP = 5 MYR). To facilitate cross-cultural comparison, we analyzed absolute differences in monetary value ranging from 1 (i.e., MYR 2.50 or GBP 0.50) to 20 (i.e., MYR 50 or GBP 10). It is important to note that since our key hypotheses compared within-cultural differences in the presence or absence of endowment effects, the possibility of unequal spending power seems unlikely to account for any observed differences. At the end of the study, we assessed participants' demographic information including information about their culture and level of English proficiency.

Results and Discussion

Data Analysis. As in Study 1, we applied General Linear Models to test our predictions. We employed seven planned orthogonal contrasts to test whether imagining the use of coffee mugs in public or private contexts influenced endowment effects among British and Malaysian participants. *Overall Effect of Context:* First, we tested for an overall effect of using the coffee mug in public or private contexts (λ1). Then, we examined each social context separately. *Public Context:* We tested for overall cultural differences in mug value when British and Malaysian participants imagined using the coffee mug in an open plan office (λ2). To test Hypothesis 1, we then tested for endowment effects in British participants (λ3) and Malaysian participants (λ4). *Private Context:* Next, we tested for overall cultural differences in mug value, when British and Malaysian participants imagined using the coffee mug in a home office (λ5). To test Hypothesis 2, we then tested for endowment effects in British participants (λ6) and Malaysian participants (λ7). The overall model fit was significant, $F(7,148) = 6.30$, $p < .001$, $R^2 = .23$. Results are illustrated in Fig. 2. Since neither participants' age nor their level of English proficiency qualified the results, we did not include these variables into analysis.

Overall Effect of Context. Overall, participants did not value coffee mugs differently in public compared to private contexts, λ1: $b = -.79$, $t = -1.80$, $p = .075$, CI95% [-1.65, .08].

Public Context. Overall, when imagining using the coffee mug in an open plan office, British and Malaysian participants valued it to a comparable extent, λ2: $b = 1.09$, $t = 1.70$, $p = .091$, CI95% [-.18, 2.36]. Importantly, however, this finding was further qualified by the following two contrasts. While British participants showed clear endowment effects when imagining using a coffee mug at home (λ3), we did not observe endowment effects among the Malaysian participants (λ4). Specifically, British owners (M_{Owner} = 9.56, SEM_{Owner} = 2.19) assigned greater value to the coffee mug than British buyers (M_{Buyer} = 4.75, SEM_{Buyer} = 0.92), λ3: $b = 2.41$, $t = 2.68$, $p = .008$, CI95% [.63, 4.18], thus showing an endowment effect. In contrast, Malaysian participants did not differ in the value they assigned to the coffee mug when being its owner or buyer (M_{Owner} = 6.47, SEM_{Owner} = 1.60, and M_{Buyer} = 3.47, SEM_{Buyer} = 0.72 respectively), λ4: $b = 1.50$, $t = 1.64$, $p = .104$, CI95% [-.31, 3.31], thus showing no evidence for an endowment effect. The results of λ3 and λ4 together support Hypothesis 1.

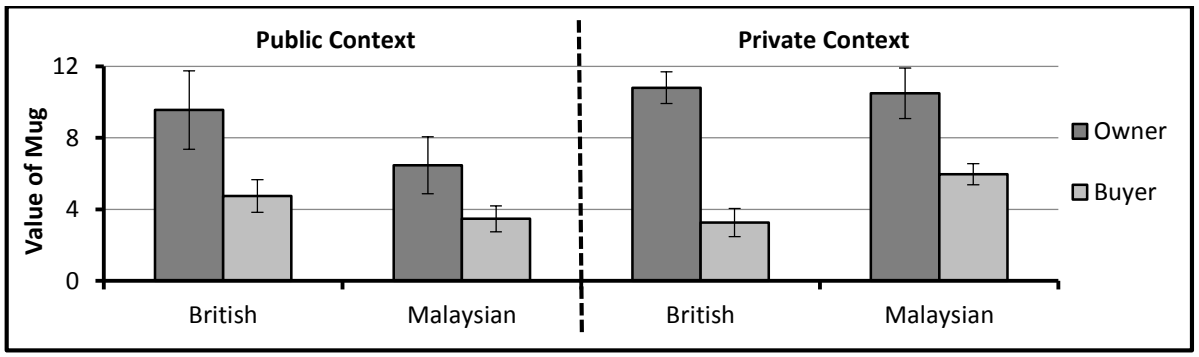

Fig. 2. Monetary values assigned to mugs by British and Malaysian owners and buyers when imagining its use in an open plan office (public context) or a home office (private context) in Study 2. Error bars indicate standard errors.

Private Context. Overall, when imagining using the coffee mug in a home office, British and Malaysian participants valued coffee mugs to a comparable extent, λ5: b = -.60, t = -1, p = .32, CI95% [-1.77, .58]. Unlike in the public context, this result was *not* qualified by the subsequent contrasts. Both British (λ6) and Malaysian (λ7) participants showed endowment effects when imagining using the coffee mug at home. Specifically, British owners (M_{Owner} = 10.81, SEM_{Owner} = 0.89) assigned greater value to the coffee mug than British buyers (M_{Buyer} = 3.26, SEM_{Buyer} = 0.79), λ6: b = 3.78, t = 4.16, p < .001, CI95% [1.98, 5.57], thus showing an endowment effect. Similarly, Malaysian coffee mug owners (M_{Owner} = 10.50, SEM_{Owner} = 1.41) valued the coffee mug significantly more than Malaysian coffee mug buyers (M_{Buyer} = 5.96, SEM_{Buyer} = 0.59), λ7: b = 2.27, t = 2.97, p = .004, CI95% [.76, 3.79], thus also showing an endowment effect. The results of λ6 and λ7 together support Hypothesis 2.

Discussion. Replicating findings from Study 1, Asian participants, who were born and raised in Malaysia, showed no endowment effects when imagining the use of coffee mugs in public contexts. Importantly, however, they did show clear endowment effects when imagining the use of the same mugs in private contexts. In contrast, the social context in which Western participants, who were born and raised in the UK, imagined using the mugs did not influence endowment effects. Whether imagining the use of coffee mugs in an open plan office or at home, British owners valued the mugs significantly more than British buyers. Taken together, Study 2 provides evidence for the idea that social context modulates cultural differences in endowment effects.

General Discussion

We examined the influence of social contexts on endowment effects among East Asian and Western participants. In two studies, we asked participants to imagine being the owner or buyer of a coffee mug, and using this mug in either public (open plan office) or private (home office) contexts. Study 1 found endowment effects among Asian students in private but not public contexts. Study 2 demonstrated that when imagining public contexts, British but not Malaysian owners valued coffee mugs more than buyers. When imagining private contexts, however, both British and Malaysian owners valued coffee mugs more than buyers.

We extend previous research on cultural differences in endowment effects. Maddux et al. (2010) demonstrated that individuals with more independent self-concepts, typical in Westerners, showed larger endowment effects than individuals with interdependent self-concepts, typical in Asians. Based on the more situation-contingent nature of their interdependent self-concepts (Kanagawa et al., 2001; Suh, 2002), we predicted and found that endowment effects among Asians depended on social context. Only in private but not in public contexts, did Asian participants show endowment effects. In contrast, British participants showed clear endowment effects irrespective of the social context. What remains to be investigated by future studies is which psychological mechanism underlies our findings.

One possibility is that mere ownership effects account for our findings (e.g., Morewedge et al., 2009). In Asian cultures, the subjective feeling of being or not being the owner of the endowed object might depend on the social context. Previous research showed that psychological rather than legal ownership predicts endowment effects (Reb & Connolly, 2007). Psychological ownership seems at least in part to result from being able to exert control over the object (Pierce, Kostoca, & Dirks, 2003). Yet, while Western cultures emphasize influence over one's environment, Asian cultures expect individuals to adjust to their environment (Morling, Kitayama, & Miyamoto, 2002). This may suggest that in Asian cultures, in spite of being the legal owner of an object, individuals feel reduced subjective ownership for endowed objects, at least in public contexts. Perhaps, when imagining being endowed with an object in a private context, Asian participants feel more confident and secure about using it, and eventually exert more control over it. Thus, Asian participants in our study might have felt more subjective ownership when imagining the use of a coffee mug at home compared to its use in an open plan office. Thus, we observed endowment effects in private but not in public contexts.

Another possibility is that prospect theory of loss aversion accounts for our findings (e.g., Kahneman et al., 1990). Social context could have changed the magnitude of the anticipated loss when giving up endowed objects in Asian cultures. If individuals from such cultures construe endowments as more personal in private but more communal in public contexts, then loss aversion might predict endowment effects to be larger in the former than in the latter social contexts. For example, it is conceivable that imagining the use of a coffee mug in an open plan office, where its possession is shared, will make its loss less painful. The loss of a more communally shared property can potentially be compensated by a greater number of people. In contrast, loss of personal property might be more immediate and much more difficult to replace. Thus, a personal loss might weight more heavy than a communal loss.

One interesting implication from construing endowment as more personal or more communal depending on the social context is that Asians might experience endowment effects not only for their own property in private contexts, but also for the property of significant others in public contexts. In other words, to the same extent that public context reduces the value of property that a person owns (e.g., the individual's coffee mug), public context might also enhance the value of property that a significant other person owns (e.g., the manager's coffee mug). Indeed, recent research showed endowment effects for objects that belonged to the mothers of Chinese participants (Feng, Zhaoa, & Donnayc, 2013).

Conclusion

Endowment effects can impede any profitable trading outcome. Giving advice to people about when to buy profitable shares and when to sell unprofitable ones is a difficult affair. The present research illustrated two important factors that can influence people's decision making when

buying and selling. We found that both cultural background of individuals and social context of the decision making determined the presence or absence of endowment effects. While Western participants showed clear endowment effects irrespective of the social context, East Asian participants only showed endowment effects when making the decision in private but not when making such decision in public. A better understanding of why Asians do not show endowment effects in public contexts may prove important for educating shareholders and decision researchers alike. With more trading conducted internationally, both from home and from offices, the practical implications of our research are of significance well beyond the immediate academic circles.

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