The Endowment Effect for Experiences vs. Products: The Role of Narrative Processing

Abstract

In this paper, we show the magnitude of the endowment effect is significantly increased when consumers consider experiences compared to material products. In five studies we show that this difference arises because sellers of experiences engage in narrative processing about what the experience would be like more than buyers. We first show sellers’ willingness to accept (WTA), but not buyers’ willingness to pay (WTP) for experiences, is greater than for material products (study 1). Then we show highlighting experiential (vs. material) aspects of the same item leads to a greater endowment effect (study 2). Next, we provide evidence for the mechanism. Narrative processing mediates the effect of product type on WTA but not on WTP (study 3). Mental simulation of using material possessions (study 4), and adding product-related narratives with high (vs. low) narrative structures (study 5) enhance WTA for material possessions to the same level as experiences. Finally, we discuss theoretical and managerial implications.

Keywords: Experience, Material, Narrative Processing, Endowment Effect

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The Endowment Effect for Experiences vs. Products: The Role of Narrative Processing

Consumer behavior research has increasingly turned attention towards the consumption of experiences versus material products. Experiences are intangible purchases made with the primary intention of acquiring “a life event” or “money spent on doing.” In contrast, material products are “tangible objects, kept in one’s possession” or “money spent on having” (Kumar and Gilovich 2016; Van Boven and Gilovich 2003). Previous research has revealed several distinctions between experiences and material products including that experiential purchases lead to greater happiness (Van Boven and Gilovich 2003), are more strongly associated with the self (Carter and Gilovich 2012), and people tend to talk more about their experiences (Kumar and Gilovich 2015).

The vast majority of past research has investigated post-consumption consequences of purchasing experiences versus material goods. In this paper we examine pre-consumption effects, specifically how the basic differences between experiences and material goods may influence the magnitude of the endowment effect. Research on the endowment effect has most often focused on the different considerations of buyers versus sellers and less attention has been given to the potential impact of the type of object being evaluated. At first glance one might argue that the type of object should not matter, after all, the traditional loss aversion-based explanation relies on possession of an object and not the type of object under consideration (e.g., Kahneman, Knetsch and Thaler 1990). We integrate research on experiences with research on narratives to develop a set of new predictions regarding the endowment effect. Simply stated, we propose that the endowment effect is greater for
experiences relative to material products. Experiences naturally invoke a more narrative processing style that encourages sellers to simulate what the experience will be like (Escalas 2004). For example, imagine that you purchased a pair of tickets to go to a concert to see your favorite band. In anticipation of the event, you may start to visualize the excitement of the crowd, imagine the band playing your favorite songs, decide who you will go with, etc. Relative to material products, experiences encourage consumers to develop a story regarding how a sequence of consumption events may unfold in the future. We suggest that this type of narrative processing inflates the amount that sellers demand for someone else to purchase the ticket and therefore inflates the endowment effect.

The paper is organized as follows. We present a brief review of prior research on the endowment effect as well as narrative processing. Next, we test our prediction in five experiments that vary the objects under consideration, examine boundary conditions, and isolate narrative processing as the psychological mechanism. We conclude with a discussion of theoretical and managerial implications.

INTEGRATING RESEARCH ON THE ENDOWNMENT EFFECT AND NARRATIVE PROCESSING

The endowment effect is the classic finding that a seller’s minimum price to give up a product (WTA) is significantly greater than a buyer’s maximum price to pay (WTP) for that product (Thaler 1980). Loss aversion is the explanation most often cited for the endowment effect, the act of giving up any object is psychologically more painful than the pleasure felt by gaining that same object, (Kahneman and Tversky 1979; Thaler 1980). More recently,
other contributing factors such as egocentric empathy gaps (e.g., Van Boven, Dunning, and Loewenstein 2000), construal level (Irmak et al., 2013), and differences in affect disparity (e.g., Peters, Slovic, and Gregory 2003) have also been proposed. One particularly relevant explanation for the endowment effect has focused on the differences in perspectives between buyers and sellers (Carmon and Ariely 2000). This research finds that sellers and buyers focus on different aspects of the exchange: buyers tend to focus on the money spent, and therefore reference prices heavily influence buying prices; sellers, however, tend to focus on the product itself, hence other factors beyond references prices influence selling prices.

Building on this insight, we examine the experience versus material product distinction as one novel object-related factor that should influence the magnitude of the endowment effect. We focus on the significant role that narrative processing may have in the evaluation of experiences relative to material products. Narrative processing involves the consumer being transported into the experience, creating a story including a beginning, middle, and end (Bruner 1986, 1990; Green and Brock 2000; Stein and Albro 1997). This type of mental simulation is more likely to occur with experiences versus products (Escalas 2004). More importantly in the context of the endowment effect, we contend that the narrative processing inherently involved with experiences is more likely to influence sellers’ willingness-to-accept (WTA) estimates rather than buyers’ willingness to pay (WTP) estimates. Consistent with a focus on the foregone (Carmon and Ariely 2000), a seller is more likely to direct attention to simulating what the experience would be like when estimating WTA prices. Given that the story utility of experiences is higher than that of material products (Kumar and Gilovich 2015) and that consumers even derive positive utility
from anticipating experiences (Kumar, Killingsworth and Gilovich 2016), sellers’ WTA estimates for experiences could be significantly higher than that for material products where the same type of mental simulation is less likely. Buyers, on the other hand, tend to focus on the overall amount of the expenditure rather than the object being purchased (Carmon and Ariely 2000). Without the same degree of narrative processing, buyers’ WTP for experiences should be more similar to their WTP for material products.

More formally,

H1: The endowment effect will be larger for experiences than for material products. Specifically, product type moderates the endowment effect such that there will be an interaction between the type of product (experience vs. material good) and type of estimate (WTA vs. WTP).

H2: Narrative processing mediates the effect of product type on willingness to accept (WTA) but not on willingness to pay (WTP) estimates.

Before we proceed to the experiments, we note that the material product versus experience characterization is distinct from previous research that examines choices between hedonic and utilitarian products (Dhar and Wertenbroch 2000). One may argue that experiences are more hedonic and material products are more utilitarian, and the greater endowment effect of experiences (vs. material products) is due to the hedonic nature of experiences. However, the two characterizations can be conceptually separated. An experience such as a trip is utilitarian when it is a business trip, but hedonic when it is a vacation. By the same token, a material product such as a computer is utilitarian when it is intended for work, but hedonic when it is intended for entertainment. Nevertheless, in the
current research we took precautions to keep the hedonic-utilitarian dimension constant.

We tested these hypotheses in five studies. Study 1 shows the endowment effect is greater for experiences than for material products. Study 2 shows highlighting the experiential aspects of a product leads to a greater endowment effect than highlighting the material aspects of a product. Study 3, 4 and 5 demonstrate narrative processing as the mechanism. Study 3 examines the role of narrative processing as a moderated mediator. In Study 4 and Study 5, we manipulate narrative processing by encouraging mental simulation of using material products (study 4), or by varying narrative causality structure (study 5).

**STUDY 1: THE ENDOWMENT EFFECT OF EXPERIENCES VS. MATERIAL PRODUCTS**

*Design and Method*

Study 1 included a 2 x 2 design with product type (experience vs. material product) and type of estimate (selling prices vs. buying prices) as between-subjects factors. We recruited 255 participants (53% females, average age = 34) from Amazon Mechanical Turk and randomly assigned them to one of the four conditions. We included three product categories as repeated measures and randomized the order. The objects were chosen to be similar in nature in order to minimize differences in overall liking. A pretest showed the three categories of experience and material products did not differ in the hedonic-utilitarian dimension ($t(1,131) = 0.66, p = .51$). In the experience (material product) condition, the three product categories were a ticket to your favorite band’s concert (vs. your favorite band’s DVD concert collection), a ticket to your favorite author’s speaking appearance (vs. your favorite author’s new book), and a movie ticket to a special one-time screening of *The Lord*
of the Rings in 3-D (vs. a reprint of a signed movie poster of The Lord of the Rings). We tried to control for scarcity by framing all material products as limited editions.

Prices for all items were presented and were kept the same for the experience and material product in the corresponding category (e.g., DVD collection vs. concert). Participants in the seller condition imagined they owned the products, and indicated the minimum prices at which they were willing to sell the products; participants in the buyer condition indicated the maximum amount they were willing to pay for the products. Finally, they indicated the extent to which they liked each of the products on a 7-point scale (1 = not at all; 7 = very much).

Results

There were no significant interactions between category and other independent variables. Since the included reference prices for the three categories are different, we created standardized prices in order to compare across categories. A standardized price is the WTA/WTP estimate divided by the reference price. That is, if the WTA of a concert was $150 and the provided reference price was $100, the standardized price would be 1.5. We analyzed the data using an ANOVA with standardized prices as the dependent variable and product type, type of estimates, and their interactions as independent variables. The data pattern for the three categories was the same, so we collapsed across categories. An ANOVA revealed a significant main effect of product type ($F(1, 251) = 20.30, p < .0001$), a significant main effect of type of estimates ($F(1, 251) = 60.83, p < .0001$), and a significant interaction between product type and type of estimates ($F(1, 251) = 4.23, p < .04$).

In the material product condition, the endowment effect was present, with sellers
stating higher prices than buyers ($M_{sell} = 1.57$ vs. $M_{buy} = 1.03$; $t(124) = 4.11$, $p < .0001$). The endowment effect was also present in the experience condition ($M_{sell} = 2.18$ vs. $M_{buy} = 1.26$; $t(127) = 6.87$, $p < .0001$). As predicted, the endowment effect was greater in the experience condition than in the material product condition, indicated by the significant product type x type of estimates (selling prices vs. buying prices) interaction (Figure 1).

Discussion

These results support our hypothesis that product type (experience vs. material) moderates the endowment effect. Importantly, the difference was driven by the sellers’ estimates of WTA versus the buyers’ estimates of WTP. Consistent with our conceptualization, the results are consistent with the notion that sellers are mentally simulating the experience to a greater degree than they do in a product context, leading to increased WTA estimates. In contrast, there were no differences in buyers’ willingness to pay estimates across product type.

A supplemental analysis revealed that liking could not explain the pattern of results. An ANOVA with product liking as the dependent variable and with sell-buy estimates and product type as independent variables revealed no significant main effects or interactions. Participants did not like the products differently (Means: experience-sell: 5.26; experience-buy: 5.35; material-sell: 5.31; material-buy: 5.30; Figure 1: bottom). Controlling for product liking in the overall model also did not change our results.
It is reasonable to suggest that the interaction was a result of the specific categories we chose instead of any processing differences between sellers of experiences versus material products. Study 2 addresses this concern by using the same product and framing it as more experiential or more material. Additionally, holding the product constant allows us to control other differences between experiences and material products, such as price, scarcity, and the social aspect of experiences, thus providing a more conservative test of our hypotheses.

**STUDY 2: CONTROLLING FOR PRODUCT CATEGORY**

*Design and Method*

Study 2 included a 2 (Framing: material framing vs. experiential framing) × 2 (Type of estimate: seller vs. buyer) between-subjects design. We randomly assigned participants to think about either material or experiential aspects of an HDTV and write down their thoughts. In each condition, we then randomly assigned half the participants as sellers and half as buyers. We asked the sellers to imagine they have the HDTV and indicate their lowest WTA to forgo the HDTV, and asked the buyers their highest WTP for the HDTV. In this study we did not include reference prices for the product. We predicted an interaction between product frame and type of estimate such that sellers in the experiential frame would demand higher WTA estimates than sellers in the product frame. Consistent with Study 1, we predicted no difference between experiential and product framing for buyers.

*Method*

We recruited 320 participants through Amazon Mechanical Turk to participate in this study in exchange for $0.50. Participants who did not complete the survey (n = 11) were eliminated from the analysis. Four participants indicated they would not want to sell the
HDTV at any price so we excluded them from the analysis. Interestingly, all four participants were in the “experience framing-seller” condition. Our final data set thus contained left 305 participants (56% female; ages 18-64, $M = 34.5$).

*Product-framing manipulations.* We randomly assigned participants to one of four conditions in the 2 (Framing: material product framing vs. experiential framing) × 2 (Type of estimate: selling prices vs. buying prices) design. All participants were shown a picture of an HDTV. Participants in the material (experiential) framing conditions were instructed, “Think about the material [experiential] aspects of your HDTV. How is your HDTV [HDTV experience] like? What it would be like to have [watch] this HDTV? Please describe your HDTV [HDTV watching experience] below.” Then participants were asked to provide either WTA or WTP estimates.

After participants finished indicating their prices, they answered two manipulation-checks. First, participants were told, “Possessions are something one purchases to have; experiences are something one purchases to do. They then rated the HDTV on experience frame scale (1 = definitely something one purchases to have, 7 = definitely something one purchases to do). Next participants were told, “Now think of material purchases as purchases made with the primary intention of acquiring a material good: a tangible object that is kept in one’s possession; think of experiential purchases as purchases made with the primary intention of acquiring a life experience: an event or series of events that one lives through.” They then rated the HDTV on a second experience frame scale (1 = definitely a possession, 7 = definitely an experience).

*Results*
Manipulation check. The two manipulation-check questions were highly correlated (r = .60), so we averaged them to generate an experiential score. An ANOVA with product framing as the independent variable showed the HDTV was considered more experiential in the experiential-framing condition than in the material-product-framing condition (M_{experiential} = 3.20 vs. M_{material} = 2.65; F(1, 301) = 4.07, p < .05).

We also used response latency as a proxy for elaboration. We found no difference between the experiential-framing condition and material-framing condition in the time participants spent (time spent: M_{experiential} = 58 seconds vs. M_{material} = 56 seconds; F(1, 301) = .07, p = .78). In other words, participants did not elaborate more when they framed the HDTV in an experiential way than when they framed it in a material way.

Endowment effect. An ANOVA with prices (in dollars) as the dependent variable, and product framing, type of estimates (selling vs. buying prices), and product framing x type of estimates interaction as independent variables, reveals a significant main effect of product framing (F(1, 301) = 7.10, p = .008), a significant main effect of type of estimates (F(1, 301) = 23.08, p < .0001), and a significant interaction between product framing and type of estimates (F(1, 301) = 3.91, p < .049). In the material framing condition, the endowment effect was present, with sellers stating higher prices than buyers (M_{sell} = $512 vs. M_{buy} = $365; t(151) = 2.01, p < .045). The endowment effect was present in the experiential framing condition (M_{sell} = $755 vs. M_{buy} = $401; t(150) = 4.77, p < .0001), and the effect was greater in the experiential framing condition than in the material framing condition, indicated by a significant product framing x type of estimates (selling vs. buying prices) interaction (Figure 2).
Insert Figure 2 about here

Discussion

Study 2 provides a more conservative and controlled test for the moderating effect of product type on the endowment effect by holding the product constant across conditions and manipulating its experiential (vs. material) framing. Results showed sellers valued an HDTV more when they were reminded about the experiential aspect of watching HDTV rather than being reminded about its material attributes. This study showed the effect of Study 1 was not simply due to the specific sets of experiences and material products we chose. This study also helps us rule out several alternative explanations, including scarcity, prices, replaceability and shareability.

STUDY 3: THE ROLE OF NARRATIVE PROCESSING

The purpose of Study 3 is to provide support for the role of narrative processing as a mechanism of the effect. Previous research has shown that narrative processing can be measured by the extent of transportation, the process of immersing oneself in the narrative. By establishing narrative transportation as a moderated mediator, we provide statistical evidence that narrative processing is the mechanism for the greater endowment effect of experiences.

Method

Study 3 followed the same 2 product type (experiences vs. material products) x 2 type of estimate (selling vs. buying prices) between-subjects design as in Study 1, with the
following modification. After participants indicated their WTP/WTA, they were then asked to answer three 7-point items (1 = not likely, 7 = extremely likely) that capture the extent of narrative transportation (“I could easily picture the experience [product],” “I could picture myself in the scene [with the product],” and “I was mentally involved in the experience [product],” \( \alpha = 0.85 \)) (adapted from Escalas 2004). We also included measures of the self in this study. Participants rated how close they felt the purchase to the self on a 7-point scale (1 = not at all, 7 = very much): “consider that some of our possessions can feel rather close to our sense of self. That is, some possessions form a larger part of our self-definitions, of who we are, than others. How much would having the ticket of the concert [the DVD collection] feel like it is part of your true, essential self?” (Adapted from Carter & Gilovich 2012). We recruited 389 participants (51.2% female, mean age = 33) from Amazon Mechanical Turk in Study 3.

**Results**

*The endowment effect.* Overall, we found a significant main effect of product type \((F(1, 385) = 14.05, p = .0002)\), a significant main effect of type of estimates \((F(1, 385) = 50.29, p < .0001)\), and a significant two-way interaction \((F(1, 385) = 4.52, p = .034)\). In the material-product condition, the endowment effect was present, with sellers stating higher prices than buyers \((M_{sell} = 1.60 \text{ vs. } M_{buy} = 1.03; t(191) = 3.92, p < .0001)\). The endowment effect was present in the experience condition \((M_{sell} = 2.28 \text{ vs. } M_{buy} = 1.22; t(194) = 5.34, p < .0001)\) and was greater than in the material-product condition, indicated by a significant interaction.

*Narrative transportation.* A significant two-way interaction between product type and
type of estimates also emerged when we used narrative transportation as the dependent variable \((F(1,385) = 6.92, \ p = .0009)\). In the material-product condition, participants reported the same level of narrative transportation regardless of whether they were assigned as sellers or buyers \((M_{sell} = 4.99 \ vs. \ M_{buy} = 5.29; \ t(191) = 1.45, \ p = .15)\). In the experience condition, participants reported higher levels of narrative transportation when they were assigned as sellers versus buyers \((M_{sell} = 5.68 \ vs. \ M_{buy} = 5.21; \ t(194) = 2.27, \ p = .02)\).

*Moderated mediation.* When we added narrative transportation to the model as a mediator, an interesting pattern of effects emerged. The two-way interaction between product type and type of estimates became insignificant \((F(1, 384) = 1.60, \ p = .11)\). To test the underlying mechanism, we conducted a moderated mediation analysis (Muller, Judd, and Yzerbyt 2005; Preacher, Rucker, and Hayes 2007). We proposed and tested for Hayes model 8 (Figure 3), in which the seller/buyer type of estimates moderated both the relationship between product type and narrative transportation (indirect path) and the relationship between product type and price (direct path). We administered a bootstrap with 5,000 draws to examine the conditional indirect effects (Hayes 2012, model 8). As expected, narrative transportation mediated the relationship between price and product type for sellers (95% CI: 0.05, 0.20) but not for buyers (95% CI: -.08, .05).

*Effects of the self:* One alternative explanation could be that experiences are closer to the self than material products. Carter and Gilovich (2012) show people tend to think of
their experiential purchases as more connected to the self and as reflecting their self-identity more than their possessions. Because the more we feel connected to one product the more we value it, closeness to the self might lead to the differential endowment effect between experiences and material products. Consistent with this previous research, we found a significant main effect of product type on closeness to the self \( (F(1, 385) = 21.15, p < .0001): \) participants felt experiences were closer to the self than material products \( (M_{\text{exp}} = 4.73 \text{ vs. } M_{\text{mat}} = 3.84; t(385) = 4.60, p < .0001) \). However, we found no significant main effect of type of estimates \( (F(1, 385) = .04, p = .83) \) or interaction between product type and type of estimates \( (F(1, 385) = 1.61, p = .21) \). Regardless of whether participants were assigned as sellers or as buyers, they felt material products were equally far from the self \( (M_{\text{buy}} = 3.73 \text{ vs. } M_{\text{sell}} = 3.94; t(191) = 0.75, p = .46) \), and they felt experience products were equally close to the self \( (M_{\text{buy}} = 4.88 \text{ vs. } M_{\text{sell}} = 4.59; t(194) = 1.05, p = .30) \). A moderated mediation (model 8) also showed “closeness to the self” did not mediate the relationship between price and product type (indirect effect of high-order interaction: -0.18, 0.03). Although experiences are indeed evaluated as closer to the self, this is essentially a main effect for both buyer and sellers and therefore does not explain the interaction.

**STUDY 4: PRODUCTS, EXPERIENCES AND MENTAL SIMULATION**

Thus far we have shown that product type moderates the endowment effect and that this effect is driven by price estimates of sellers versus buyers. In addition, we have shown that narrative processing mediates this pattern of results. In the next two studies we provide further evidence for our explanation by directly manipulating narrative processing. In this study we examine the role of mental simulation. Specifically, instructing sellers of material
goods to mentally simulate using the product should encourage generation of narrative stories that are similar in structure to sellers of experiences. In effect, simulation makes sellers of material products resemble sellers of experiences. In contrast, as shown in studies 1-3, since experiences already involve narrative processing for sellers, instructions to simulating an experience should not have an additional impact.

Method

Study 4 was a 2 product type (experience vs. material) x 2 type of estimate (selling prices vs. buying prices) x 2 mental simulation instruction (present vs. absent) between-subjects design. We recruited 759 participants (51.2% females, mean age: 32) from Amazon Mechanical Turk and randomly assigned them to one of eight conditions based on product type, type of estimates, and mental-simulation instruction. The product type manipulation and type of estimates were the same as Study 1. The mental simulation manipulation went as follows: after participants saw the products (experiences), half of them indicated their WTP/WTA directly (no mental simulation). The other half were first asked to mentally simulate what the experience (using the material product) would be like, and rated their anticipated satisfaction of the experience (using the material product) on three 7-point scales anchored at dissatisfied/satisfied, unhappy/happy, and feel bad/feel good (adapted from Shiv and Huber 2000). Next, respondents indicated their WTA or WTP, followed by two manipulation-check questions (“To what extent did you imagine yourself in the experience [with the product]?” “To what extent did you try to form a picture of the experience [product]?” 1 = Not very much, 7 = a great deal; r = .83). We used two categories from Study 1 as repeated measures.
Results

The pattern was the same for the two categories so we collapsed the results.

Manipulation check. The results revealed a successful manipulation of mental simulation. An ANOVA with the extent to which respondents engaged in mental imagery as the dependent variable, and product type, type of estimates, mental simulation, and their interactions as independent variables, revealed a significant main effect of mental simulation ($F(1, 751) = 33.88, p < .0001$). Participants tried to form mental images of the products more when we did versus did not give them mental-simulation instructions ($M_{\text{No MS}} = 5.54$ vs. $M_{\text{MS}} = 5.00$; $t(751) = 5.82, p < .0001$). Furthermore, the model also revealed a main effect of product type ($F(1, 751) = 40.21, p < .0001$). Participants simulated experiences more than material products ($M_{\text{exp}} = 5.57$ vs. $M_{\text{mat}} = 4.98$; $t(751) = 6.34, p < .0001$), consistent with the notion that experiences are naturally richer in narratives than material products.

Endowment effect. Similar to Study 1, there were no significant interactions between category and other independent variables, so we standardized prices to pool data across the categories. Standardized prices were ratios between participants’ valuation and market prices. An ANOVA with standardized prices as the dependent measure, and product type, type of estimates, mental simulation, and their interactions as independent variables, revealed a main effect of product type ($F(1, 751) = 9.22, p = .003$) and a main effect of type of estimates ($F(1, 751) = 84.42, p < .0001$). We found no product type x type of estimates interaction ($F(1, 751) = 1.78, p < .18$), consistent with our hypothesis that mental simulation reduced the differences between experiences and material products. Specifically, when mental simulation was absent, the endowment effect was present for both material products ($M_{\text{sell}} = 2.06$ vs.
\( M_{\text{buy}} = 1.20; t(186) = 3.33, p < .0009 \) and experiences \( (M_{\text{sell}} = 3.08 \text{ vs. } M_{\text{buy}} = 1.50; t(186) = 5.13, p < .0001) \), and the product type x type of estimates was significant \( (F(1, 372) = 4.26, p < .04) \), indicating a greater endowment effect for experiences than for material products.

When mental simulation was present, the product type x type of estimates interaction became insignificant \( (F(1, 379) = .06, p = .80) \), indicating the greater endowment effect for experiences (vs. material products) disappeared when mental simulation was involved. The endowment effect was present for both material products \( (M_{\text{sell}} = 2.77 \text{ vs. } M_{\text{buy}} = 1.15; t(192) = 4.35, p < .0001) \) and experiences \( (M_{\text{sell}} = 3.12 \text{ vs. } M_{\text{buy}} = 1.39.; t(187) = 5.39, p < .0001) \).

No other main effects or interactions were significant. See Figure 4.

For material products, the interaction between mental simulation (MS) and type of estimates was marginally significant \( (F(1, 378) = 3.08, p = .08) \). Mental simulation increased selling prices but not buying prices for material products (for selling prices, \( M_{\text{no MS}} = 2.06 \text{ vs. } M_{\text{MS}} = 2.77; t(189) = 2.20, p < .03 \); for buying prices, \( M_{\text{no MS}} = 1.20 \text{ vs. } M_{\text{MS}} = 1.15; t(189) = .16, p = .87 \) ). In fact, sellers in the mental-simulation condition \( (M_{\text{exp, MS}} = 2.77) \) regarded their material products as being as valuable as sellers of experiences \( (M_{\text{exp, MS}} = 3.12; t(186) = 1.11, p = .27) \). However, for experiences, the interaction between mental simulation and type of estimates became insignificant \( (F(1, 373) = .07, p = .78) \). As expected, mental simulation did not further increase selling prices \( (M_{\text{no MS}} = 3.08 \text{ vs. } M_{\text{MS}} = 3.12; t(183) = .13, p = .89) \) or buying prices \( (M_{\text{no MS}} = 1.50 \text{ vs. } M_{\text{MS}} = 1.39; t(190) = .37, p = .71) \) for experiences.

Insert Figure 4 about here

*Discussion*
The results from Study 4 demonstrate that instructing sellers to mentally simulate using their material products can increase the magnitude of the endowment effect for material products to the same level of experiences. On the other hand, mental simulation has little effect on experiences. Consistent with our framework, mentally simulating using a material product provides a narrative that makes sellers of products resemble sellers of experiences.

**STUDY 5: EXAMINING THE STORY STRUCTURE OF NARRATIVES**

The previous four studies show converging support for the role of narrative processing in the moderation of the endowment effect. In study 5 we focus on pinpointing the role of story structure in the narratives generated by consumers’ WTA estimates. A narrative has a temporal structure – a beginning, middle and end (Bruner 1990; Fiske 1993), and an embedded casual structure – what happens in time 1 leads to what happens in time 2 (Bruner 1990). Previous research indicates that narratives rely heavily on causal structure, people make sense of the scene by inferring the causal chain (Dahlstrom 2010; Dahlstrom 2012; Stein and Albro, 1997). In study 5, we examine how narrative causal structure interacts with product framing (experience vs. material product) to influence product evaluations. If higher WTA estimates are due to narrative processing and the stories generated therein, then disrupting the causal structure should counteract the effect of narratives. Since experiences already invoke narrative processing with a causal structure, we only expect that causal structure manipulation to influence WTA estimates of material goods.

Manipulating narrative processing via causal structure has one advantage relative to manipulating narrative processing via mental simulation as in the previous study.
Specifically, mental simulation allows us to manipulate the degree of processing but not the content of processing. In contrast, a causal structure manipulation allows us to control for the content of processing by keeping all the information the same. Indeed, research has shown that people spend less time elaborating when narrative causality structure is high (vs. low), because when information is organized in causal structure, people do not have to spend additional time to fill in mental causal gaps to make sense of the story (Magliano 1999). Therefore, by manipulating narrative causality, we are able to tease apart narrative processing account from “mere elaboration” account because high causal structure is associated with lower elaboration.

Method

Study 5 included a 2 (Framing: material framing vs. experiential framing) × 2 narrative causal structure (high vs. low) between-subjects design. 251 participants who owned an HDTV were recruited from Amazon Mechanical Turk for this study. We randomly assigned participants to one of the four conditions.

Participants received a product framing manipulation followed by a narrative manipulation. The product framing manipulation was similar to study 2 with the product remaining the same across conditions. In material framing condition, participants read: “take a minute to think about the features of your HDTV. How well does your HDTV work? How is your HDTV like?” In the experiential framing condition, participants read: “take a minute to think about the watching experience of your HDTV? How is your TV watching experience like?”
On the following page, participants received a narrative causal structure manipulation. In this manipulation participants were provided a specific narrative that comprised a sequence of events. All information was the same, however the high causal narrative structure included links in the causal chain that incorporated a beginning, middle and end of the story. In contrast, in the low causal narrative structure condition the same information was provided but the order of the information was scrambled. Essentially the same information was presented but in a list format rather than a story format.

In high narrative causality condition, participants read:

*Imagine the following narrative related to your HDTV: “I remember the first time I watched my HDTV. I waited until there was a football game on in HD. I absolutely could not believe the clarity when the game started. I could read the players' moods. The brilliant colors were amazing and I was able to make out all the details. It is a great TV.”*

In low narrative causality condition, participants read essentially the same information, but the sentence order was scrambled. More specifically, participants read:

*Imagine the following facts related to your HDTV.*

1. *I could read the players’ moods.*
2. *The brilliant colors were amazing.*
3. *The HDTV is a great TV.*
4. *I was able to make out all the details.*
5. *I absolutely could not believe the clarity.*
6. *I waited until there was a football game on that was in HD.*
7. *I remember the first time I watched my HDTV. ”*
Next, all participants indicated their WTA for the HDTV by making a series of choices between “keep the HDTV” and “sell the HDTV” for a list of prices ranging from $100 to $2000 in $50 increments. If participants’ selling prices were greater than $2000, they were asked to write down their selling prices. We used the lower bound of participants’ switching point as their WTAs. For example, if a participant said yes from $100 all through to $500, but said no from $500 all through $2000, his/her WTA was $500. If a participant indicated his/her selling prices greater than $2000 and they wrote down a price, we used the price they wrote down as their WTA. Finally, participants rated two manipulation-check questions assessing the extent to which they perceived the events to be a narrative (“When you read the events related to your HDTV, to what extent did the events feel like a narrative?”; “When you read the events related to your HDTV, to what extent did you imagine a narrative?”; 1 = not at all, 7 = very much), two manipulation check questions assessing the extent to which they considered the product to be experiential or material (questions were the same as study 2) and one question assessing vivid imagery (“When you read the events related to your HDTV, to what extent did you form vivid images?”; 1 = not at all; 7 = very much).

Results

Six participants did not indicate their WTAs monotonically (e.g. willing to accept to sell for $500 but not willing to accept to sell for $800), so they were excluded from the study, leaving 245 participants.

Manipulation check of narrative structure. The two manipulation-check questions for narrative structures were highly correlated ($r = .82$), so we averaged them. An ANOVA with
product framing condition and narrative condition as independent variables revealed a highly significant effect of narrative condition ($F(1, 241) = 5.65, p = .02$): the events related to HDTV were considered to be more like a narrative in the high narrative causality condition than low narrative causality condition ($M_{\text{high narrative}} = 4.53$ vs. $M_{\text{low narrative}} = 4.02; t(241) = 2.29, p < .02$).

Manipulation check of product framing. An ANOVA with product framing condition and narrative condition as independent variables revealed only a main effect of product framing condition ($F(1, 241) = 3.87, p = .05$): participants considered the HDTV to be more experiential in experiential framing condition than in material framing condition ($M_{\text{experiential}} = 3.30$ vs. $M_{\text{material}} = 2.85; t(241) = 1.97, p < .05$). No other main effect or 2-way interaction was significant.

WTA estimates. An ANOVA with prices (in dollars) as the dependent variable, product framing, narrative manipulation (high vs. low narrative causality), and their interactions as independent variables, revealed a significant interaction between product framing and narrative manipulation ($F(1, 241) = 4.09, p = .04$). No other main effects were significant. A further examination of the means revealed that, when the HDTV was framed in a material way, participants indicated greater WTA when they read a product-related narrative with high narrative causality than when they read the same information with low narrative causality ($M_{\text{material, high narrative}} = $725 vs. $M_{\text{material, low narrative}} = $516; t(121) = 2.13, p < .04$). However, when the same HDTV was framed in an experiential way, adding a product-related narrative with high (vs. low) narrative causality did not lead to more WTA ($M_{\text{experiential, high narrative}} = $650 vs. $M_{\text{experiential, low narrative}} = $722; t(120) = -.73, p = .46$) (Figure
Also relevant to our hypotheses, when participants read a product-related narrative with low narrative causality, they indicated greater WTA when the HDTV was framed in an experiential way than when it was framed in a material way ($M_{\text{experiential}} = 722$ vs. $M_{\text{material}} = 516$; $t(120) = 2.08, p < .04$), replicating the results of Study 1-4. However, when participants read a product-related narrative with high narrative causality, they indicated the same WTA in material framing condition as in experiential framing condition ($M_{\text{material, high narrative}} = 725$ vs. $M_{\text{experiential, high narrative}} = 650$; $t(121) = .77, p = .44$). Indeed, there was no difference in WTA between material framing-high narrative causality condition and experiential framing-low narrative causality condition ($M_{\text{material, high narrative}} = 725$; $M_{\text{experiential, low narrative}} = 722$ vs.; $t(121) = .03, p = .98$) as well.

Discussion

Study 5 provides insight to the role of how narrative processing affects WTA evaluations. By manipulating the causal structure we are able to show it is the story involved with narrative processing that drive the greater endowment effect of experiences. Adding a narrative with high (vs. low) causal structure increases the money consumers demand to part with the material-framed item. However, because experiential framing already has a narrative in it, adding a narrative with high (vs. low) narrative structure does not provide further increase in the experiential-framing condition.
GENERAL DISCUSSION

Previous research has shown many differences exist between experiences and material products (e.g., Van Boven and Gilovich 2003, Carter and Gilovich 2010, Carter and Gilovich 2012). In this research, we demonstrate a fundamental asymmetry in the endowment effect regarding how sellers and buyers value experiences and material products. Our data consistently show the type of estimate interacts with product type to influence valuation, leading to a greater endowment effect for experiences than for material products. In studies 1, 3, and 4, we provided the same market prices in experience and material conditions to control for a reference-price response to the endowment effect (Weaver and Frederick 2012). To demonstrate the effect in a more controlled setting and to rule out other potential explanations, in Study 2, we framed the same HDTV as more experiential or more material, and showed the endowment effect was greater when we framed the HDTV in an experiential than in a material way. Study 3 provided a mechanism for the effect: narrative transportation mediated the relationship between price and product type for sellers but not for buyers. Only when participants forgo (vs. acquire) experiences (vs. material products) do they transport more into the narratives, which leads to greater valuation. Study 4 and Study 5 provided further evidence for the mechanism by manipulating narrative thinking through mental simulation (Study 4), or through varying narrative causality structure (Study 5), and showed that adding narrative thinking can increase sellers’ valuation of material products.

Many differences exist between experiences and material products. The set of studies help us rule out several alternative explanations. First, the greater endowment effect for experiences cannot be due to the fact that the experiences used in this paper have higher
prices than material products. We provided the same prices for experiences and material counterparts in study 1, 3, 4 to keep prices constant. Furthermore, in Study 2 and Study 5, we framed the same HDTV as more experiential or more material, without providing market price. We have no reason to assume prices are different in experience versus material-products conditions. Second, the greater endowment effect for experiences cannot be due to experiences being scarcer than material products: in studies 1, 3, and 4, we limited both experiences and material products (limited edition for material products); in Study 2 and Study 5, highlighting an HDTV’s experiential aspects did not make the product any more scarce than highlighting its material aspects.

Another alternative account for why consumers may be more reluctant to part with experiences than with material products is closeness to the self. Belk (1988) suggests consumers incorporate their self-identities into their possessions. Indeed, Carter and Gilovich (2012) have shown experiences tend to be more closely associated with the self than possessions. Because experiences reflect self-identity more than material possessions, consumers might value experiences more, in which case, we would expect consumers to feel experiences to be more closely associated with the self than material products when they forgo a product, but not when they acquire a product. However, an additional measure of closeness to the self in Study 3 showed that in both forfeit and acquisition conditions, participants felt experiences to be closer to the self than material products, and “closeness to the self” did not mediate the relationship between product type and valuation.

Directions for Future Research

The studies in this article reveal narrative processing is one of the key differences
between experiences and material products. Pre-factual narrative processing leads to narrative transportation and further increases WTA for experiences. Because narrative transportation persuades through mental imagery, reduced critical thoughts, and strong affective responses (Green and Brock 2000), consumers might have more or stronger affective responses when they sell (vs. buy) an experience (vs. a material product), thus leading to a greater endowment effect for experiences. Chan and Mogilner (2013) showed experiential gifts were more connecting than material gifts, because experiential gifts elicit more affective responses. The proposition that affective responses could serve as the mechanism does not contradict our story, because affective responses are one of the downstream consequences of narrative transportation (Green and Brock 2000). Unfortunately, we did not measure affective responses in this paper, so we cannot determine whether this claim is legitimate. Future research could measure affective responses directly and examine whether they mediate the effect of product type on valuation. Further research could also examine think-aloud protocols to provide additional evidence for narrative processing and preclude other accounts.

Our results show that it is hard to increase buyers’ WTP for both material products and experiences due to an egocentric empathy gap between sellers and buyers: buyers tend to focus on the expenditure (Van Boven, Dunning, and Loewenstein 2000; Carmon and Ariely 2000). We believe we did not increase WTP, because we did not try to increase perceived ownership in these studies. Perceived ownership puts buyers in the role of sellers and may make WTP more similar to WTA. Research has shown enhancing perceived ownership by encouraging participants to touch a product can increase WTP for the product (Peck and Shu 2009). Furthermore, having a chance to interact with the material product through modern
virtual technology enhances purchase intentions (Schlosser 2003). Mentally simulating using a product increases brand evaluation and purchase intentions of the product (Escalas 2007). We believe purchase intention is different from WTP because WTP focuses people’s attention on the specific monetary amount they would lose and thus distracts them from product-related figures. However, we believe a strong manipulation of perceived ownership may increase WTP as well. Future research could test this possibility.

Theoretical Implications

This research contributes to two bodies of work in the literature, one related to experiential versus material purchases and the other related to the endowment effect. Previous research has shown experience purchases are more satisfying (Van Boven and Gilovich 2003). Our findings identify market reaction to experience and material purchases, namely, WTA and WTP. Further, we contribute to the work on how experience differs from material possessions, by proposing one more feature of experience products: narrative processing. We identify forfeit condition (vs. acquisition condition) as a necessary condition in which experiences elicit narrative processing, and show narrative processing mediates the difference in the endowment effect between experience and material products for sellers.

Our results also provide insight into the processes of the endowment effect. Although the endowment effect is well established, we do not have a complete understanding of its processes. The endowment effect is a multi-determined phenomenon. Previous research has shown at least two aspects that account for the endowment effect: emotional attachment and perspective change (see Ariely, Huber, and Wertenbroch 2005). In this research, we show the magnitude of loss aversion depends on the processing mode that products elicit: more
narrative processing leads to greater loss aversion. We identify the necessary conditions to elicit narrative processing: (1) pre-factual thinking triggered by loss and (2) richness in narratives for the product.

The narrative account of the endowment effect is not mutually exclusive to the perspective-change account and the emotional-attachment account. The perspective-change account is the antecedent of our narrative account: whether people engage in narrative processing depends on both the perspective and the product type. The emotional-attachment account could be considered the downstream effect of our narrative account: once participants engage in narrative processing of the product, they may develop greater emotional attachment to the product.

The current research also provides insight into how to turn the endowment effect on and off. The current research suggests mental simulation of using material products is a good strategy to enhance the endowment effect for product type that is poor in narrative.

Managerial Implications

Our results suggest implications for pricing and promotion strategies. The current finding does not necessarily indicate one can charge a higher premium for experience products than for material products, because buyers do not value experiences more than material products. However, when consumers already own the product and face a decision to discontinue consumption, consumers are more reluctant to part with experience products than material products. For example, all else being equal, consumers may be less willing to discontinue an experience purchase (e.g., Netflix) than a material purchase (e.g., toilet paper on Amazon’s subscribe-and-save program). Marketers may be able to charge a price
premium for experiences for the next period. Our results can even be extended to reservations, product trials, and samples. For example, all else being equal, consumers may be less willing to cancel a vacation-package reservation than a computer they reserve in store. On the other hand, the second-hand market for experiences may be harder to sell than that for material products. The greater endowment effect for experiences indicates a ticket-exchange (experiences) online store may have a lower transaction rate than a product-exchange online store.

Our results also indicate adding narratives to otherwise narrative-poor products can enhance consumers’ valuation for material products once they develop perceived ownership of the product. Adding narratives to otherwise narrative-poor products can be achieved through encouraging consumers to engage in mental simulation, or through imposing high narrative causality structure on the information presented. Marketers may consider adding scripts and narratives when advertising material products. When doing so, marketers need to make sure product-related narratives are high in narrative causality. A good example is Nike’s advertising of running shoes. Instead of stating the benefits of running shoes in an analytical way (e.g., light weight, cushioning system, durability, etc.), Nike’s advertisement portrays a man who overcame his own limitations and self-doubt though exercise, and transformed into someone better. Nike products helped the man make his journey from average to superstar. This narrative builds clear causal links which organize information in a whole. A good narrative that connects the material products will make consumers value the material products more.
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**FIGURE 1**

**STUDY 1: THE ENDOWMENT EFFECT IS GREATER FOR EXPERIENCES THAN FOR MATERIAL PRODUCTS**

![Bar chart showing standardized prices for experiences and materials.]

*Liking*  
<table>
<thead>
<tr>
<th>Experience</th>
<th>Material</th>
<th>Sell</th>
<th>Buy</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.26</td>
<td>5.35</td>
<td>2.18</td>
<td>1.26</td>
</tr>
<tr>
<td>5.31</td>
<td>5.30</td>
<td>1.57</td>
<td>1.03</td>
</tr>
</tbody>
</table>

*Liking did not differ across conditions.*
FIGURE 2

STUDY 2: HIGHLIGHTING EXPERIENTIAL (VS. MATERIAL) ASPECT OF THE SAME PRODUCT INCREASES THE ENDOWMENT EFFECT

![Bar chart showing prices for experiential and material framing.](#)
FIGURE 3

STUDY 3: NARRATIVE PROCESSING MODERATED THE EFFECT OF

PRODUCT TYPE ON PRICE FOR SELLERS BUT NOT FOR BUYERS

Sell: 95% CI: [0.05, 0.20]
Buy: 95% CI: [-0.08, 0.05]

Hayes 2012, model 8
FIGURE 4

STUDY 4: MENTAL SIMULATION OF USING MATERIAL PRODUCTS ENHANCES THE ENDOWMENT EFFECT OF MATERIAL PRODUCTS (VS. EXPERIENCES)

EXPERIENCES

MATERIAL PRODUCTS
FIGURE 5

STUDY 5: ADDING PRODUCT-RELATED NARRATIVE WITH HIGH (VS. LOW) NARRATIVE CAUSALITY ENHANCES WILLINGNESS TO ACCEPT FOR MATERIAL PRODUCTS (VS. EXPERIENCES)