

Product usage experiences have a significant impact on postpurchase evaluation and subsequent behavior. Consumers look to their own experiences, as well as those of others, when deciding what to buy and what to recommend. Contrary to the intuition that varied experiences should enhance evaluation, five studies demonstrate that in some situations, perceiving usage experiences as less—not more—varied improves postpurchase product evaluation. Less varied usage experiences make consumers think that products are used more frequently. As a result, perceiving usage experiences as less varied makes consumers more satisfied with their purchase, more likely to buy it again, and more likely to recommend it. In addition to their practical implications, the findings make important theoretical contributions to the variety literature and toward understanding frequency and numerosity judgments.

*Keywords:* variety, frequency judgments, product evaluation, experiences, similarity

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## How Experience Variety Shapes Postpurchase Product Evaluation

Imagine that you and a friend each recently bought the same pair of sneakers. You both use the sneakers in multiple situations, but these situations differ in variety. You wear the sneakers while walking the dog, walking to work, and walking to the grocery store, whereas your friend wears them while walking the dog, flying on airplanes, and doing home improvement projects. Which of you should like the sneakers more? And when it comes time to buy sneakers again, who would be more likely to buy the same pair?

Product usage experiences play a critical role in consumer decision making. Consumers consider their own experiences, as well as those of others, when deciding what to buy and what to recommend. While the content and valence of individual experiences are known to influence postpurchase product evaluation (Anderson, Fornell, and Lehmann 1994; Boulding et al. 1993; Oliver 1980), might

the degree of variety among multiple usage experiences also play a role? For example, consumers often use the same product in the same way in multiple situations, and these situations may be (or seem to be) more varied (e.g., walking the dog, flying on airplanes, doing home improvement projects) or less varied (e.g., walking the dog, walking to work, walking to the grocery store). Holding constant the quality of each usage experience, how might the perceived variety among multiple usage experiences influence product evaluation?

One might expect that using a product in more varied situations would improve postpurchase evaluation. Indeed, a large body of research suggests that consumers are attracted to variety (Berlyne 1970; Faison 1977; Rolls et al. 1981) and often prefer varied product assortments (Iyengar and Lepper 2000; Mogilner, Rudnick, and Iyengar 2008; Ratner, Kahn, and Kahneman 1999). Using a product in diverse situations may thus increase how much consumers like the product.

We propose, however, that in some situations, perceiving usage situations as less—not more—varied can improve product evaluation. Extending prior research on numerosity and typicality judgments (e.g., Redden 2008; Sussman and Alter 2012), we argue that perceiving usage situations as less varied should increase how often consumers think they use the product. Because usage frequency has a positive

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impact on postpurchase evaluation (Goodman and Irmak 2013; Hamilton, Ratner, and Thompson 2011; Tanner and Carlson 2009), we predict that consumers will evaluate a product more positively when they perceive their experiences with it as less varied. As a result, less varied usage experiences may make consumers feel more satisfied with a past purchase, more likely to buy it again, and more willing to recommend it.

The article proceeds as follows. First, we review relevant literature on variety, product evaluation, and frequency judgments to develop our predictions. Second, we describe five studies that test these hypotheses, providing convergent support with a broad range of consumers, products, and usage experiences. We conclude by discussing theoretical and practical contributions, implications, and directions for further research.

### *VARIETY PERCEPTIONS AND PRODUCT EVALUATION*

In line with prior work, we use the term “variety” to describe the relationship among multiple entities. Items are more varied to the extent that they are more distinct or differentiated from one another (Hoch, Bradlow, and Wansink 1999; Kahn and Wansink 2004). A beverage assortment that includes coffee, tea, and juice, for example, would be more varied than a beverage assortment that includes only different types of juice.

The same assortment may also be perceived as more or less varied. For example, prior work has found that the way items are organized (Hoch, Bradlow, and Wansink 1999; Kahn and Wansink 2004; Morales et al. 2005) or categorized (Mogilner, Rudnick, and Iyengar 2008; Redden 2008) affects how varied an assortment seems. The information consumers attend to can also affect their variety perceptions. People perceive more variety among both products and behaviors, for example, when they attend to differences (vs. similarities) among them (Etkin and Ratner 2012, 2013).

Variety perceptions play a critical role in how assortments are evaluated. Consumers are attracted to varied assortments (Hoch, Bradlow, and Wansink 1999) and anticipate higher utility from consuming more varied items (Kahn and Wansink 2004). Indeed, research has found that consumers prefer to sample from more varied product assortments (Iyengar and Lepper 2000) and to patronize stores offering more varied options (Broniarczyk, Hoyer, and McAlister 1998). Retrospective judgments also favor varied product assortments. People evaluate a series of songs more positively, for example, when the songs include more variety (Ratner, Kahn, and Kahneman 1999) and report increased enjoyment from viewing a series of photos when those photos seem more distinctive (Redden 2008).

Although this prior work has demonstrated how product variety within an assortment influences evaluation of that assortment (e.g., how the variety among songs being listened to affects the listener's enjoyment; Ratner, Kahn, and Kahneman 1999), less is known about how experience variety—the perceived variety among multiple experiences with the same product—might affect product evaluation. To address this question, the current research explores how the variety of situations in which a single product is used, holding constant its functionality and performance, influences its evaluation.

Consumers often use the same product in the same way in multiple situations, and these usage situations (or experiences) may differ in variety. With a pair of sneakers, for example, less varied usage experiences might include walking the dog, walking to work, and walking to the grocery store, whereas more varied usage experiences might include walking the dog, flying on airplanes, and doing home improvement projects. The same situations (e.g., walking the dog, walking to work, and walking to the grocery) may also seem more or less varied, depending on whether consumers focus on aspects that are shared (e.g., walking) or unique (e.g., the final destination).

Note that across these usage experiences, there is no change in what the product is used for or how well it performs—only the degree of variety among situations in which it is used. Thus, the current research goes beyond prior findings regarding specialized versus all-in-one positioning (Chernev 2007) and dilution effects (Zhang, Fishbach, and Kruglanski 2007), which focused on multiple purposes or functions of a product, to examine how the variety among a product's usage situations affects evaluation. What effect might perceiving more or less variety among product usage experiences have on how consumers evaluate the product?

### *THE CURRENT RESEARCH*

We propose that in some situations, perceiving product usage experiences as less—not more—varied will improve postpurchase evaluation. Furthermore, we predict that this effect will be driven by usage frequency judgments, such that less varied experiences are perceived as occurring more often, leading consumers to perceive the product as used more frequently.

Usage frequency judgments play a key role in product evaluation. Consumers often assess the value of a good or service by comparing its benefits with its acquisition cost (Dodds, Monroe, and Grewal 1991; Monroe 1990). Each additional time a product is used, its utility rises relative to its cost, thereby increasing the product's perceived value (Monroe 1990; Nunes 2000; Sheth, Newman, and Gross 1991; Tanner and Carlson 2009). Consequently, consumers evaluate products (e.g., sneakers, phones) more positively when they perceive more frequent usage (Goodman and Irmak 2013; Hamilton, Ratner, and Thompson 2011). Higher perceived usage frequency may also enhance consumers' perceived idiosyncratic fit with a product, which increases product valuation and promotes positive responses to marketing offers (Hamilton, Ratner, and Thompson 2011; Kivetz and Simonson 2003; Sela, Simonson, and Kivetz 2013).

Despite the influential role of product usage rate, consumers struggle with accurately estimating it (Goodman and Irmak 2013; Thompson, Hamilton, and Rust 2005), often relying on external cues to form such judgments (Gilovich, Griffin, and Kahneman 2002). For example, people may use monetary value to infer frequency, such that more valuable items are perceived as less numerous and occurring less frequently (Dai, Wertenbroch, and Brendl 2008), or they may incorporate information about others' usage frequency when estimating their own (Hamilton, Ratner, and Thompson 2011; Kivetz and Simonson 2003).

We propose that the perceived variety among product usage situations will also influence usage frequency judgments. Several prior findings support this prediction. First, increased similarity leads people to categorize items as belonging to fewer, bigger groups (Mervis and Rosch 1981; Ülkümen, Chakravarti, and Morwitz 2010), and consumers perceive events from bigger categories as occurring more frequently (Isaac and Brough 2014). Less varied (i.e., more similar) usage experiences may thus seem to belong to a bigger category, increasing how often they seem to occur.

Second, visual perception research has suggested that visual variety affects perceived quantity. People rely on spatial area to judge perceptual quantity (Krueger 1972; Raghubir and Krishna 1996), and varied items are less easily aggregated into a single, unified whole (Enns and Kingston 1995; Wertheimer 1938). Quantity estimates of identical visual stimuli (e.g., shapes) are thus greater than quantity estimates of nonidentical stimuli (Redden and Hoch 2009). Although this stream of research has generally contrasted identical with nonidentical visual stimuli rather than more versus less varied experiences, we propose that the same principle may generalize to judgments of experience variety. Thus, less varied usage experiences may seem more numerous.

Third, more unique entities are perceived as less typical and thus less frequent. Support for this idea comes from work showing that consumers often underestimate the frequency of seemingly unusual purchases (Sussman and Alter 2012). Although this prior work focused on outcomes quite different from the ones examined in the current research (i.e., budgeting decisions), the findings are consistent with our proposition that usage frequency perceptions may decrease with perceived experience variety.

Integrating these prior findings, we predict that when consumers view their product usage experiences as less varied, they will perceive that they use the product more frequently. As a result, holding constant the quality of individual usage experiences, when usage situations seem less varied, consumers should evaluate products more favorably. Contrary to the idea that variety increases product liking, we thus predict that perceiving usage experiences as less—not more—varied may improve postpurchase product evaluation:

H<sub>1</sub>: Perceiving usage experiences as less varied improves postpurchase product evaluation.

H<sub>2</sub>: This effect is driven by perceiving less varied usage experiences as occurring more frequently.

These hypotheses suggest that decreased variety should improve product evaluation to the extent that perceiving more frequent product usage has a positive effect on product evaluation. In contexts in which usage frequency plays a smaller role, however, these effects should be attenuated.

We expect that the positive relationship between perceived usage frequency and product evaluation should apply particularly to utilitarian products, for which perceived functionality and utility drive evaluation (Dhar and Wertenbroch 2000; Sela and Berger 2012; Tanner and Carlson 2009). Hedonic product consumption is primarily

characterized by affective and sensory experiences of aesthetic or sensual pleasure, fantasy, and fun (Hirschman and Holbrook 1982). Evaluations of such products are thus less affected by utilitarian considerations such as usage frequency (Kivetz and Keinan 2006; Shiv and Fedorikhin 1999). Because usage frequency judgments play a smaller role in how consumers evaluate hedonic products, experience variety should have less of an effect on such evaluations:

H<sub>3</sub>: The negative effect of experience variety on product evaluation is attenuated for hedonic (vs. utilitarian) products.

We further expect that whether products are evaluated before versus after purchase will moderate the effects. Relative to past purchases with which consumers have direct experience, mental representations of anticipated future purchases are inherently more hypothetical and abstract. There are several reasons for this difference. First, because consumers lack direct experience with the product (Hamilton and Thompson 2007), its physical attributes should be vaguer and less familiar. Second, consumers may be unable to clearly associate the product with concrete representations of usage situations (Thompson, Hamilton, and Rust 2005). Third, representations of the benefits associated with the product are likely to be uncertain (Hoch and Loewenstein 1991). Consequently, anticipated purchases are mentally represented at a higher construal level than past purchases (Thompson, Hamilton, and Rust 2005; Trope and Liberman 2003, 2010).

This tendency to mentally represent purchases more abstractly in the prepurchase relative to the postpurchase phase should attenuate the predicted effects in two ways. First, abstract construal should reduce the effect of experience variety on perceived usage frequency because it changes how similarity (and thus variety) is perceived. When consumers think abstractly, they tend to search for commonalities among entities (Etkin and Ratner 2013; Förster, Liberman, and Kuschel 2008; Malkoc, Zauberaman, and Ulu 2005) and to perceive items as less varied at baseline (Goodman and Malkoc 2012; Lamberton and Diehl 2013; Liberman, Sagristano, and Trope 2002). Regardless of the actual variety among them, imagined usage experiences with a future purchase may thus seem less varied than usage experiences with a past purchase. As a result, compared with postpurchase evaluation, prepurchase usage frequency judgments may be less influenced by contextual variety cues, attenuating the effect on product evaluation.

Second, abstract construal should reduce the effect of frequency perceptions on product evaluation because it changes what information consumers attend to. Whereas postpurchase evaluation (i.e., lower construal) focuses people on product usage (and thus usage frequency), prepurchase evaluation (i.e., higher construal) focuses them on having the product rather than using it (Thompson and Norton 2011). This prepurchase “having and spending” mindset (Rassuli and Hollander 1986) often results in the failure to consider how much a product will be used before buying it (Goodman and Irmak 2013). Consequently, compared with postpurchase evaluation, prepurchase evaluation should be less affected by perceived usage frequency. That consumers may find it difficult to associate the product

with specific usage situations (Thompson, Hamilton, and Rust 2005) should further reduce the weight of usage frequency in prepurchase evaluation.

In summary, while perceiving less varied usage experiences should improve postpurchase evaluation, this effect should be attenuated for prepurchase evaluation:

H<sub>4</sub>: The effect of experience variety on product evaluation is attenuated for prepurchase (vs. postpurchase) evaluation.

The current research makes three key contributions. First, whereas a large body of research has suggested that variety often improves consumers' evaluations (Broniarczyk, Hoyer, and McAlister 1998; Iyengar and Lepper 2000; Kahn and Wansink 2004) and consumption experiences (Ariely and Levav 2000; Ratner, Kahn, and Kahneman 1999), we identify a context in which less—not more—variety improves product evaluation. Second, by examining consequences of perceived variety among multiple experiences, we extend prior work exploring how aspects of individual usage experiences influence postpurchase evaluation (e.g., Dodds, Monroe, and Grewal 1991; McFadden 1986; Sheth, Newman, and Gross 1991). Third, by integrating and extending previous work on uniqueness and numerosity perceptions, we further understanding of contextual effects on event frequency judgments.

Five studies test our predictions. Study 1 examines whether using a product in less varied situations improves postpurchase product evaluation, including consumers' satisfaction, repeat purchase intentions, and willingness to recommend the product. Study 2 demonstrates that the effect generalizes across a broad range of products and usage experiences, and Study 3 shows that it emerges naturally. Study 4 tests the proposed underlying process as well as the proposed moderating role of utilitarian versus hedonic product nature. Finally, Study 5 tests the proposed moderating role of pre- versus postpurchase evaluation. While also ruling out several alternative explanations, these studies demonstrate that the perceived variety of consumers' product usage experiences shapes postpurchase product evaluation and subsequent purchase decisions.

#### STUDY 1: LESS VARIED EXPERIENCES IMPROVE POSTPURCHASE EVALUATION

Study 1 examines how thinking about using a product (sneakers) in more or less varied situations affects postpurchase product evaluation (H<sub>1</sub>). Participants described three more or less varied prior experiences with their sneakers and then evaluated the purchase, including how satisfied they felt with their sneakers, how likely they would be to buy them again, and how likely they would be to recommend them. We predicted that asking consumers to consider less varied usage experiences would improve postpurchase evaluation.

##### Design and Method

Eighty-six panelists from Amazon Mechanical Turk (MTurk; mean age = 28 years; 26% female) who indicated that they owned a pair of sneakers were randomly assigned to a variety condition, either low or high. First, we manipulated the perceived variety of participants' prior experiences with their sneakers. All participants read that we

were interested in people's experiences with their sneakers and that they would be asked to consider specific examples. In the low-variety condition, they listed three similar experiences they had previously had with their sneakers. In the high-variety condition, they listed three different experiences they had previously had with their sneakers. In both conditions, participants read that these experiences could include situations, occasions, places, or times that they had used the sneakers. Pretest results (N = 46) supported the manipulation, showing that participants who listed different sneaker experiences perceived them as more varied ("How much variety is there among the usage experiences you have had with your sneakers?"; 1 = "very little variety," and 7 = "a lot of variety"; M = 5.14, SD = 1.36) than those who listed similar sneaker experiences (M = 3.82, SD = 1.88; F(1, 44) = 7.55,  $p < .01$ ).

Second, participants evaluated their sneakers. We asked them, "How much do you like the sneakers?" (1 = "don't like that much," and 7 = "like a lot"), "How happy do these sneakers make you?" (1 = "not very happy," and 7 = "very happy"), and "How much do you enjoy using these sneakers?" (1 = "enjoy very little," and 7 = "enjoy a lot"). These measures were highly correlated ( $\alpha = .92$ ) and combined into a postpurchase evaluation index.

To assess the impact on downstream judgments and decisions, we also measured participants' satisfaction ("How satisfied are you with your sneakers purchase?"; 1 = "not very satisfied," and 7 = "very satisfied"), repurchase intentions ("Given the opportunity to buy this pair of sneakers again, how likely would you be to do so?"; 1 = "very unlikely to buy again," and 7 = "very likely to buy again"), and willingness to recommend the sneakers ("How likely would you be to recommend these sneakers to someone that you know?"; 1 = "very unlikely to recommend," and 7 = "very likely to recommend"). These measures were highly correlated ( $\alpha = .89$ ) and combined into a downstream consequences index.

Finally, we asked participants how long ago they had purchased their sneakers (M = 14.81 months). Length of ownership did not differ between conditions (F(1, 84) = 1.42,  $p > .23$ ).

##### Results

A one-way analysis of variance (ANOVA) on postpurchase evaluation revealed the predicted effect. When participants considered less varied experiences with their sneakers, their postpurchase product evaluation (M = 6.01, SD = .87) was more positive than when they considered more varied experiences (M = 5.53, SD = 1.28; F(1, 84) = 4.02,  $p < .05$ ).

The same pattern emerged for downstream consequences. When participants considered less varied experiences with their sneakers, they reported higher postpurchase satisfaction and repurchase intentions (M = 6.26, SD = .73) than when they considered more varied experiences (M = 5.67, SD = 1.37; F(1, 84) = 6.20,  $p < .05$ ).

##### Discussion

Study 1 provides initial support for H<sub>1</sub>. Compared with more varied usage experiences, recalling less varied experiences with a pair a sneakers improved postpurchase product evaluation. Participants felt more satisfied with their

purchase, more likely to buy the same sneakers again, and more willing to recommend the sneakers when their usage experiences seemed less varied.

### STUDY 2: GENERALIZABILITY ACROSS PURCHASES AND USAGE EXPERIENCES

Study 2 has two main objectives. First, it explores the generalizability of Study 1's finding across a broad range of consumers' idiosyncratic purchases and usage experiences. Second, Study 2 uses a different variety manipulation that addresses several potential alternative explanations. Although Study 1 supports  $H_1$ , one may wonder whether aspects other than variety drove the effect. If less varied product usage experiences seem more positive, for example, this positive affect could lead to more favorable evaluation. Alternatively, because products are generally intended to be used where their utility is highest, imagining diverse usage experiences could result in lower average utility perceptions. In addition, one may wonder whether recalling varied product usage experiences would be more cognitively difficult than recalling similar experiences and whether that difficulty might result in less favorable product evaluation. We address these concerns by first asking all participants to list three product usage experiences and then manipulating how varied those experiences seem. If the same effect emerges when the variety manipulation occurs after participants already listed their experiences, then the effect cannot be attributed to differences between conditions in the content, valence, ease of recall, or utility associated with specific usage experiences.

#### Design and Method

One hundred forty MTurk panelists (mean age = 28 years; 38% female) were randomly assigned to one of two variety conditions, low or high. Eleven people who reported already having participated in a similar study were excluded from analysis ( $N = 129$ ).

First, participants described a recent purchase and three experiences they had previously had with it. We instructed them that the purchase should be a durable good (i.e., not food or something else consumed only once). Five participants listed a food product despite these instructions. Among remaining participants ( $N = 124$ ), 98% of the listed purchases fell into the following five categories: clothing and beauty (22.6%; e.g., black shirt, running shoes, ball cap), entertainment (37.1%; e.g., Netflix, Xbox 360, *Iron Man 3* DVD), household items (15.3%; e.g., sheets, vacuum, sofa), transportation (10.5%; e.g., cars, mountain bikes, trailer lights), and electronic items (12.9%; e.g., laptop, iPhone, television). For a summary, see Web Appendix A.

Second, we manipulated the perceived variety of those usage experiences. In the low variety condition, we asked participants to describe how their usage experiences were similar to one another. In the high variety condition, we asked participants to describe how their usage experiences were different from one another. In this way, we manipulated perceived variety without the possibility that variety could alter the content or valence of participants' recalled usage experiences. Pretest results ( $N = 69$ ) supported the manipulation, showing that participants who described how their usage experiences were different perceived the

experiences as more varied ( $1 = \text{"very little variety,"}$  and  $7 = \text{"a lot of variety"}$ ;  $M = 4.56$ ,  $SD = 1.83$ ) than those who described how their usage experiences were similar ( $M = 3.59$ ,  $SD = 1.76$ ;  $F(1, 67) = 5.01$ ,  $p < .05$ ).

Third, participants evaluated their purchase with the same liking, happiness, and enjoyment measures from Study 1 ( $\alpha = .92$ ). Fourth, to further rule out valence differences as a potential alternative explanation, we measured the valence of each usage experience. Participants viewed each of their previously listed usage experiences and rated how positive it was ("Please rate how positive or negative you felt this experience was";  $1 = \text{"very negative,"}$  and  $7 = \text{"very positive"}$ ). We verified that the predicted effects held when we controlled for these ratings. For this and all study stimuli, see Web Appendix B.

#### Results

Consistent with Study 1, a one-way ANOVA on postpurchase evaluation revealed the predicted effect ( $F(1, 127) = 4.46$ ,  $p < .05$ ). When participants described similarities among their past product usage experiences, their postpurchase product evaluation ( $M = 6.20$ ,  $SD = 1.02$ ) was more positive than when they described differences among those experiences ( $M = 5.76$ ,  $SD = 1.31$ ).<sup>1</sup> This effect held when we controlled for the three experience valence ratings ( $F(1, 124) = 5.10$ ,  $p < .05$ ), which themselves did not differ between or within condition: a  $2$  (similarity)  $\times$   $3$  (experience valence) repeated-measures ANOVA revealed no main effect or interaction (all  $F$ s  $< 1.19$ , all  $p$ s  $> .27$ ).

To further test the effect's generalizability, we examined whether it held across the aforementioned five product categories. A  $2$  (variety)  $\times$   $5$  (product category) ANOVA revealed a main effect of variety condition ( $F(1, 112) = 6.80$ ,  $p = .01$ ) and no interaction with product category ( $F < 1$ ). For means, see Web Appendix A.<sup>2</sup> Perceiving usage experiences as less varied thus increases postpurchase evaluation for a variety of product types.<sup>3</sup>

#### Discussion

Study 2 demonstrates the generalizability of our findings. Merely perceiving usage experiences as less varied made participants evaluate their idiosyncratic purchases more positively ( $H_1$ ). This effect held across multiple product categories (e.g., clothing and beauty, household items, transportation, electronic items) and a broad range of usage experiences.

Although we did not find an interaction between product category and variety condition, examining the means (see Web Appendix A) suggests that the effect may be stronger for some product types than others. In particular, there was a small difference between variety conditions for the entertainment category ( $M_{\text{low}} = 6.12$  vs.  $M_{\text{high}} = 6.01$ ). We speculated that the reason for this apparent difference may be that entertainment products are primarily hedonic ( $H_3$ ). Thus, we conducted a posttest to explore whether the five

<sup>1</sup>The variance of these evaluations did not differ across conditions ( $F(1, 127) = 1.76$ ,  $p > .18$ ).

<sup>2</sup>This analysis includes only the 122 participants who listed products captured by the five categories.

<sup>3</sup>Product category sample sizes were small in some cases (see Web Appendix A).

product categories differed in the extent to which they seem hedonic versus utilitarian. Participants ( $N = 50$ ) viewed products in each of the five categories (including the examples in Web Appendix A) and rated how pleasurable and how functional each one was (1 = “not at all,” and 7 = “very much”). Results show that the entertainment category was viewed as the most pleasurable ( $M = 6.72$ ) and least functional ( $M = 4.08$ ) and was the only purchase category perceived as more pleasurable than functional ( $t(49) = 10.10$ ,  $p < .001$ ; see Web Appendix A). These preliminary results are consistent with  $H_3$ , suggesting that the strength of experience variety’s effect on postpurchase evaluation may depend on whether products seem primarily hedonic versus utilitarian. We test this idea directly in Study 4.

Study 2 also casts doubt on several potential alternative explanations. First, the fact that we manipulated perceived variety after participants had already listed their usage experiences casts doubt on the possibility that aspects related to experience content or ease of recall drove the observed effect. Second, the fact that the effect held when we controlled for the valence of each individual experience casts doubt on the possibility that variety affected the positivity of recalled experiences and, thus, product evaluation.

One may still wonder whether identifying similarities (vs. differences) among usage experiences is cognitively easier or more fluent, thereby leading to higher postpurchase evaluation (Redden and Frederick 2011; Schwarz 2004). To test this possibility, we conducted a follow-up study using the same procedure as Study 2 ( $N = 101$ ) in which, in addition to product evaluation, we directly measured the perceived ease of describing similarities among usage experiences (1 = “very difficult,” and 7 = “very easy”). We again found that perceiving usage experiences as less varied improved postpurchase evaluation ( $M_{\text{low}} = 6.01$ ,  $SD_{\text{low}} = .94$  vs.  $M_{\text{high}} = 5.26$ ,  $SD_{\text{high}} = 1.47$ ;  $F(1, 99) = 9.17$ ,  $p < .01$ ), but there was no effect of the variety manipulation on feelings of cognitive ease ( $F < 1$ ). There was also no difference in the time participants spent describing their experiences ( $F < 1$ ), indicating that participants did not find the task more or less demanding across conditions. We further address a cognitive ease account in Study 4.

### STUDY 3: NATURAL RELATIONSHIP BETWEEN EXPERIENCE VARIETY AND PRODUCT EVALUATION

Study 3 has two main objectives. First, it examines whether the predicted relationship between usage experience variety and postpurchase product evaluation emerges naturally, in the absence of experimental intervention and without prompting people to focus on a specific subset of usage experiences. Finding consistent support for our predictions in this subtler paradigm would further underscore the generalizability of the effects.

Second, Study 3 provides a preliminary examination of the underlying process. We have argued that perceiving product usage experiences as less varied improves postpurchase product evaluation by increasing how frequently products seem to be used ( $H_2$ ). To test this prediction, we measured perceived usage frequency and examined its relationship with perceived experience variety and postpurchase evaluation.

### Design and Method

Two hundred twelve MTurk panelists (mean age = 31 years; 31% female) described a recent purchase they had made. As in Study 2, we told them that this purchase should be a durable good and not food or an item consumed only once. Then, we asked participants how varied their prior product usage experiences had been (“How would you describe the experiences you have had with your recent purchase?”; 1 = “very little variety,” and 7 = “a lot of variety”).

Next, we measured how often participants thought they used their purchase (“How many times a week on average do you use this product?”). This open-ended measure was log-transformed to stabilize for nonnormality in its distribution (Kolmogorov–Smirnov test statistic = .41,  $p < .001$ ). Finally, participants rated their purchase on the same liking, happiness, and enjoyment measures from the prior studies ( $\alpha = .94$ ), as well as the satisfaction, repurchase, and recommendation measures from Study 1 ( $\alpha = .80$ ).

### Results

*Postpurchase evaluation.* Consistent with the prior findings, there was a negative relationship between perceived experience variety and postpurchase evaluation ( $r = -.276$ ,  $p < .001$ ) and between perceived experience variety and downstream outcomes ( $r = -.161$ ,  $p < .05$ ). The less varied participants perceived their product usage experiences to be, the more positively they evaluated the purchase.

*Usage frequency.* As we expected, there was a negative relationship between perceived experience variety and usage frequency estimates ( $r = -.203$ ,  $p < .01$ ) and a positive relationship between usage frequency and postpurchase evaluation ( $r = .304$ ,  $p < .001$ ) as well as between usage frequency and the downstream outcomes ( $r = .274$ ,  $p < .001$ ).

*Mediation.* To explore whether perceived usage frequency accounts for the relationship between experience variety and postpurchase evaluation, we conducted a bias-corrected bootstrapping mediation analysis using 5,000 samples (Hayes 2009). Supporting our predictions, the analysis revealed a significant indirect effect on the postpurchase evaluation index ( $ab = -.031$ , 95% confidence interval [CI]:  $[-.06, -.01]$ ) as well as on the downstream outcomes index ( $ab = -.030$ , 95% CI:  $[-.06, -.01]$ ). Perceiving product usage experiences as less varied made participants think their purchase would be used more frequently, which corresponded to more positive product evaluation.

### Discussion

Study 3 shows that the predicted relationship between experience variety and postpurchase product evaluation emerges spontaneously. Consistent with our prior findings, participants evaluated a purchase more positively when they perceived their experiences with it as less varied. That these effects emerged in the absence of experimental manipulation and when people reflected on the entire universe of experiences they had previously had with a product underscores the generalizability of our findings.

In addition, Study 3 provides preliminary correlational evidence in support of the proposed underlying role of perceived usage frequency ( $H_2$ ). Perceiving usage experiences as less varied corresponded to higher usage frequency estimates, and these increased frequency perceptions corresponded to improved postpurchase product evaluation. We experimentally test this underlying process in Studies 4 and 5.

#### STUDY 4: UNDERLYING ROLE OF USAGE FREQUENCY AND MODERATION BY PRODUCT NATURE

Study 4 has three main objectives. First, we experimentally test the proposed underlying process ( $H_2$ ). We have argued that perceiving product usage experiences less varied improves postpurchase product evaluation by increasing how frequently the product seems to be used. To test this prediction, we measured perceived usage frequency and examined its role in driving the effect of experience variety on postpurchase evaluation.

Second, we examine whether product nature (hedonic vs. utilitarian) moderates the observed effect ( $H_3$ ). We have argued that because usage frequency plays less of a role in how consumers evaluate hedonic products (Hirschman and Holbrook 1982), experience variety should have a weaker impact on postpurchase evaluation for hedonic products. To test this prediction, we used an everyday product (a coffee mug) and manipulated whether the activity associated with the product (drinking coffee) was perceived as primarily hedonic or utilitarian. We expected that framing drinking coffee as pleasurable would attenuate the effect of experience variety on postpurchase evaluation.

Third, we manipulated perceived variety in a different, more subtle way. Rather than drawing participants' attention to similar versus different aspects of their usage experiences, we asked participants to consider using a product in the same (i.e., identical) versus different (i.e., varied) situations. Thus, as in the prior studies, the number of usage experiences was held constant, while the variety among them differed. We expected that, compared with considering varied usage experiences, considering identical usage experiences would increase the perceived usage frequency of a product, thereby enhancing subsequent evaluation. Note that this variety manipulation did not require participants to recall experiences or describe the relationship among prior experiences, further ruling out an alternative account based on differences in cognitive ease.

#### Design and Method

Two hundred forty MTurk panelists (mean age = 33 years; 45% female) who indicated that they owned a coffee mug were randomly assigned to one condition of a 3 (frame: control, utilitarian, hedonic)  $\times$  2 (experience variety: identical vs. varied) between-subjects design. First, we manipulated how drinking coffee was framed. All participants read that we were interested in people's coffee-drinking behaviors and that they would be asked to think about specific coffee-drinking experiences. In addition, participants in the utilitarian condition read, "Take a moment and think about how drinking coffee is a functional experience. Focus on how drinking coffee is

useful." Participants in the hedonic condition read, "Take a moment and think about how drinking coffee is a pleasurable experience. Focus on how drinking coffee is enjoyable." Participants in both conditions described their thoughts in the space provided. Control participants did not receive additional instructions.

Second, we manipulated the perceived variety of participants' experiences with their coffee mugs. In the identical condition, participants imagined engaging in the same usage experience on two consecutive days: "Imagine that it is Wednesday. You use your mug to drink coffee in the morning. Now, imagine that it is Thursday. You use your mug to drink coffee in the morning." In the varied condition, participants imagined engaging in different usage experiences on two consecutive days: "Imagine that it is Wednesday. You use your mug to drink coffee in the morning. Now, imagine that it is Thursday. You use your mug to drink coffee while working." To facilitate visualization, we asked all participants to rewrite each experience in a space provided on the same page it was viewed. Pretest results ( $N = 60$ ) supported the manipulation, showing that participants in the varied condition perceived the experiences as more varied ( $1 = \text{"very little variety,"}$  and  $7 = \text{"a lot of variety"}; M = 3.00, SD = 1.39$ ) than those in the identical condition ( $M = 1.32, SD = .48; F(1, 58) = 40.24, p < .001$ ).

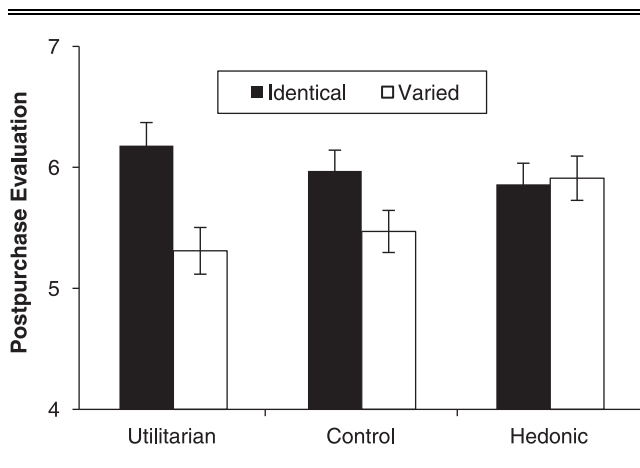
Third, we asked participants the same usage frequency measure as in Study 3 ( $1 = \text{"not very often,"}$  and  $7 = \text{"very often"}).$  Fourth, participants evaluated their coffee mugs using the satisfaction, repurchase intentions, and recommendation measures from prior studies ( $\alpha = .84$ ).

#### Results

**Postpurchase evaluation.** A 3 (frame)  $\times$  2 (variety) ANOVA on postpurchase evaluation revealed a main effect of variety ( $F(1, 234) = 8.83, p < .01$ ), qualified by an interaction ( $F(2, 234) = 3.23, p < .05$ ; see Figure 1). Consistent with our prior studies, in the control condition, considering identical (vs. varied) usage experiences improved postpurchase evaluation ( $M_{\text{identical}} = 5.97, SD_{\text{identical}} = .97$  vs.  $M_{\text{varied}} = 5.47, SD_{\text{varied}} = 1.22; F(1, 234) = 4.19, p < .05$ ). Furthermore, as we expected, this same effect emerged in the utilitarian condition ( $M_{\text{identical}} = 6.18, SD = .93$  vs.  $M_{\text{varied}} = 5.31, SD = 1.40; F(1, 234) = 10.40, p = .001$ ). However, supporting our prediction, this effect was reduced in the hedonic condition ( $M_{\text{identical}} = 5.85, SD = 1.17$  vs.  $M_{\text{varied}} = 5.91, SD = 1.12; F < 1$ ). When we emphasized the hedonic aspects of drinking coffee, experience variety no longer influenced postpurchase evaluation.

**Usage frequency.** A 3 (frame)  $\times$  2 (variety) ANOVA on estimated usage frequency revealed a main effect of product frame ( $F(2, 234) = 3.35, p < .05$ ), qualified by an interaction ( $F(2, 234) = 3.18, p < .05$ ). As we predicted, in the control condition, considering identical (vs. varied) usage experiences increased how often participants thought the product was used ( $M_{\text{identical}} = 6.50, SD = .70$  vs.  $M_{\text{varied}} = 6.02, SD = 1.17; F(1, 234) = 4.18, p < .05$ ), and a similar effect emerged in the utilitarian condition ( $M_{\text{identical}} = 6.58, SD = .84$  vs.  $M_{\text{varied}} = 6.14, SD = 1.03; F(1, 234) = 2.91, p < .09$ ). However, supporting  $H_3$ , this effect was reduced in the hedonic condition ( $M_{\text{identical}} = 5.79, SD = 1.47$  vs.  $M_{\text{varied}} = 6.08, SD = 1.11; F(1, 234) = 1.42, p > .23$ ). When we

Figure 1  
PRODUCT NATURE MODERATES EFFECT ON PURCHASE  
EVALUATION (STUDY 4)



emphasized the hedonic aspects of drinking coffee, experience variety no longer influenced usage frequency estimates.

**Mediation.** To examine the underlying role of perceived usage frequency, we ran a bias-corrected moderated mediation analysis (Hayes 2013, Model 58) combining the control and utilitarian frame conditions (we obtain the same results when separately contrasting each with the hedonic frame condition). In the combined control and utilitarian frame condition, the indirect effect of perceived usage frequency was negative and significant ( $ab = -.25$ , 95% CI:  $[-.49, -.08]$ ), indicating that considering varied (i.e., nonidentical) usage experiences reduced postpurchase product evaluation by decreasing perceptions of usage frequency. In the hedonic condition, however, this indirect effect was not significant ( $ab = .13$ , 95% CI:  $[-.12, .39]$ ). When we emphasized the hedonic aspects of product consumption, experience variety did not affect usage frequency judgments or product evaluation (see Figure 2).<sup>4</sup>

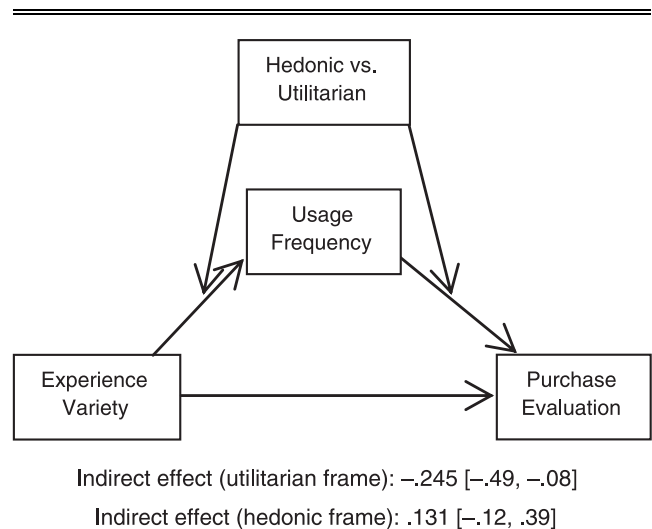
### Discussion

The results of Study 4 support the proposed underlying process ( $H_2$ ). Considering varied (i.e., nonidentical) usage experiences decreased how often participants thought they used their coffee mug, which undermined subsequent product evaluation. These findings demonstrate that usage frequency perceptions underlie the effect of perceived experience variety on postpurchase product evaluation.

The results also demonstrate the moderating role of product nature ( $H_3$ ). Just as in the control condition, when we described the behavior associated with the focal product as utilitarian, considering less varied usage experiences increased perceived usage frequency and postpurchase evaluation. Describing the behavior as hedonic,

<sup>4</sup>When we considered each frame condition separately, the results showed a significant indirect effect in the control condition ( $ab = -.30$ , 95% CI:  $[-.67, -.05]$ ) and the utilitarian condition ( $ab = -.17$ , 95% CI:  $[-.50, -.01]$ ), but not in the hedonic condition ( $ab = .13$ , 95% CI:  $[-.13, .36]$ ).

Figure 2  
USAGE FREQUENCY MEDIATES MODERATED EFFECT ON  
PURCHASE EVALUATION (STUDY 4)



however, attenuated these effects. Because usage frequency plays less of a role in how consumers evaluate hedonic products (Hirschman and Holbrook 1982), experience variety did not influence postpurchase judgments in this case.

Finally, Study 4 strengthens our prior findings by producing the same results with a more subtle and naturalistic manipulation of experience variety. Rather than asking participants to list similar or different usage experiences or to elaborate on similarities or differences among a set of experiences, we manipulated perceived variety by asking participants to consider identical (i.e., the same) versus varied (i.e., different) examples of product usage. A separate study replicated these effects using a categorization structure manipulation of perceived variety (Mogilner, Rudnick, and Iyengar 2008; Redden 2008). Compared with grouping usage experiences into a single category, subcategorizing usage experiences under distinct category labels decreased usage frequency estimates, which reduced postpurchase product evaluation.<sup>5</sup> Taken together, these manipulations rule out ease-of-recall and ease-of-elaboration alternative accounts.

### STUDY 5: MODERATING ROLE OF PURCHASE TIMING

Our final study provides additional support for the underlying mechanism ( $H_2$ ) and also tests the predicted moderating role of purchase timing ( $H_4$ ). We reasoned that because prior to purchase, consumers mentally represent products more abstractly (Goodman and Irmak 2013; Thompson, Hamilton, and Rust 2005), their imagined usage experiences should seem more similar at baseline than postpurchase usage experiences (Goodman and Malkoc 2012; Lamberton and Diehl 2013; Liberman, Sagristano, and Trope 2002). Moreover, consumers should be more

<sup>5</sup>Results are available from the first author upon request.



concerned with having (vs. using) the product before purchase (Thompson and Norton 2011) and may fail to consider how much they will use it (Goodman and Irmak 2013). Thus, although perceiving usage experiences with past purchases as less varied should improve postpurchase evaluation, we expect this effect will be attenuated for prepurchase evaluation.

Study 5 has two additional objectives. First, whereas the studies thus far have manipulated (Studies 1, 2, and 4) and measured (Study 3) the perceived variety of consumers' past product usage experiences, consumers may also consider future usage experiences with products they already own. For example, consumers who own sneakers may consider wearing them to the gym or to walk the dog later in the week, and consumers who own a backpack may contemplate carrying it to school or to the library next semester. To explore the generalizability of our findings, we thus added a third timing condition in which participants considered future experiences with a past purchase. Concrete, near-future experiences with a product one already owns and uses are likely to be mentally represented much more vividly and concretely than hypothetical experiences with a future purchase. Because the focal purchase occurred in the past, we expected that these consumers would remain in a low-construal mindset, leading to comparable effects on perceived usage frequency and postpurchase evaluation as in the past experiences condition.

Furthermore, although our paradigm holds product functionality constant across usage experiences, one may still wonder whether more diverse experiences undermine postpurchase evaluation by obscuring the product's sense of purpose (Chernev 2007; Zhang, Fishbach, and Kruglanski 2007). To address this possibility, we measured perceived clarity of product purpose and tested for differences across conditions.

### Design and Method

Two hundred twelve members of a West Coast university's community pool (mean age = 31 years; 38% female) participated in this study in exchange for payment. Participants were randomly assigned to one condition of a 3 (timing: postpurchase and past experiences, postpurchase and future experiences, prepurchase and future experiences)  $\times$  2 (experience variety: low, high) between-subjects design.

First, we manipulated purchase timing. In the postpurchase conditions, as in the prior studies, participants described a recent purchase they had made. In the prepurchase condition, participants described a purchase they wanted to make in the future. We instructed all participants to list a durable good, as in the previous studies.

Second, we manipulated the perceived variety and timing of participants' usage experiences. In the low variety condition, participants described three similar usage experiences they had previously had with this purchase (past experiences condition) or would have with it (future experiences condition). In the high variety condition, participants described three different usage experiences they had previously had with this purchase (past experiences condition) or would have with it (future experiences condition).

Third, participants reported how often they use (or would use) their purchase (1 = "not very often," and 7 = "very often"). Fourth, they answered the liking, happiness, and enjoyment measures from prior studies ( $\alpha = .89$ ).

Fifth, to address purpose clarity as a potential alternative explanation, we asked participants to indicate whether they thought their purchase had a clear purpose ("This purchase has a clear sense of purpose"; 1 = "strongly disagree," and 7 = "strongly agree"). Web Appendix B reports additional measures collected that were unrelated to the key research questions.

### Results

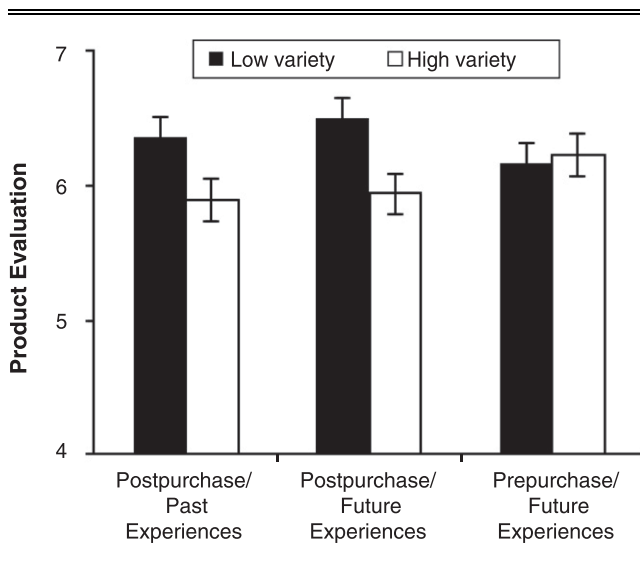
*Pretest.* Pretest participants ( $N = 222$ ) were assigned to one condition of the main study and reported their perceptions of experience variety (1 = "very little variety," and 7 = "a lot of variety"). To test how thinking of past versus future purchases influences mental abstraction, participants then completed an action identification test (Vallacher and Wegner 1989) whose focal measure was the number of abstract responses (maximum of 25).

A 3 (timing)  $\times$  2 (variety) ANOVA on the summed abstraction score revealed only a main effect of purchase timing condition ( $F(2, 216) = 3.17, p < .05$ ). Planned contrasts revealed that this difference was driven by the future purchase condition ( $M = 16.74, SD = 6.20$ ), which had a higher abstraction score than both the past purchase–past experiences condition ( $M = 14.17, SD = 6.95; t(219) = 2.36, p < .05$ ) and the past purchase–future experiences condition ( $M = 14.72, SD = 6.87; t(219) = 1.83, p < .07$ ). Consistent with our reasoning and prior research, these results suggest that products are mentally represented more abstractly before versus after purchase.

A 3 (timing)  $\times$  2 (variety) ANOVA on variety perceptions revealed a main effect of variety condition ( $F(1, 216) = 4.88, p < .01$ ). Participants who listed different experiences perceived them as more varied ( $M = 4.18, SD = 1.95$ ) than those who listed similar experiences ( $M = 3.47, SD = 1.59$ ). Furthermore, this main effect was qualified by the expected interaction ( $F(2, 216) = 4.88, p < .01$ ), which was driven by a reduced effect of the variety manipulation in the prepurchase condition ( $M_{\text{low}} = 3.64, SD = 1.98$  vs.  $M_{\text{high}} = 3.88, SD = 1.62; F < 1$ ). Consistent with our reasoning, prepurchase evaluation (characterized by abstract construal) leads usage experiences to seem less varied, regardless of our variety manipulation.

*Purchase evaluation.* A 3 (timing)  $\times$  2 (variety) ANOVA on product evaluation revealed a main effect of variety ( $F(1, 206) = 7.37, p < .01$ ), qualified by a marginal interaction ( $F(2, 206) = 2.63, p < .08$ ; see Figure 3). As in the prior studies, when participants evaluated a product they had already bought, considering less (vs. more) varied past usage experiences improved postpurchase evaluation ( $M_{\text{low}} = 6.37, SD = .82$  vs.  $M_{\text{high}} = 5.89, SD = 1.01; F(1, 206) = 4.99, p < .05$ ). Furthermore, this same effect emerged when participants considered future experiences with a past purchase ( $M_{\text{low}} = 6.51, SD = .61$  vs.  $M_{\text{high}} = 5.94, SD = 1.09; F(1, 206) = 7.43, p < .01$ ). Supporting our prediction, however, the effect of experience variety on product evaluation was attenuated in the prepurchase condition ( $M_{\text{low}} = 6.17, SD = .94$  vs.  $M_{\text{high}} = 6.23, SD = .81; F < 1$ ).

Figure 3  
PURCHASE TIMING MODERATES EFFECT ON PURCHASE  
EVALUATION (STUDY 5)



**Usage frequency.** A 3 (timing)  $\times$  2 (variety) ANOVA on estimated usage frequency revealed main effects of experience variety ( $F(1, 206) = 4.32, p < .05$ ) and purchase timing ( $F(2, 206) = 2.55, p < .09$ ), qualified by a marginal interaction ( $F(2, 206) = 2.28, p = .10$ ). When participants evaluated a product they had already bought, considering less (vs. more) varied past usage experiences increased perceived usage frequency ( $M_{\text{low}} = 6.03, SD = 1.36$  vs.  $M_{\text{high}} = 5.36, SD = 1.43; F(1, 206) = 4.86, p < .05$ ), and this same effect emerged when participants considered future experiences with a past purchase ( $M_{\text{low}} = 6.31, SD = 1.11$  vs.  $M_{\text{high}} = 5.75, SD = 1.42; F(1, 206) = 3.62, p < .06$ ). Supporting our prediction, however, switching from post- to prepurchase evaluation attenuated the effect ( $M_{\text{low}} = 6.08, SD = 1.10$  vs.  $M_{\text{high}} = 6.24, SD = 1.02; F < 1$ ).

Examining the effect of purchase timing within each variety condition further supports our reasoning. If usage experiences seem generally similar in prepurchase evaluation, as we argue, then considering varied experiences should lead to higher usage frequency estimates in the prepurchase condition than the postpurchase condition. Considering less varied experiences, in contrast, should have a similar effect across pre- and postpurchase evaluation conditions, because those experiences should be perceived as similar in both cases.

Consistent with this view, the attenuation reported previously was driven by the high variety condition. When participants considered varied experiences, there was a significant effect of purchase timing ( $F(2, 206) = 4.10, p < .05$ ). Participants who considered varied future usage experiences with a hypothetical future purchase thought they would use the purchase more frequently ( $M = 6.24, SD = 1.02$ ) than those who considered varied past usage experiences with a past purchase ( $M = 5.36, SD = 1.43; F(1, 206) = 8.15, p < .01$ ) and marginally more than those

who considered varied future usage experiences with a past purchase ( $M = 5.75, SD = 1.42; F(1, 206) = 2.63, p = .10$ ). There were no such differences, however, in the low variety condition (all  $F$ s  $< 1$ ).

**Mediation.** To examine the underlying role of perceived usage frequency, we ran a bias-corrected moderated mediation analysis (Hayes 2013, Model 58) that combined the postpurchase conditions (results hold when separately contrasting each with the prepurchase condition). For postpurchase evaluation, the indirect effect of perceived usage frequency was negative and significant ( $ab = -.12, 95\% \text{ CI} = [-.28, -.03]$ ), indicating that more varied usage experiences reduced postpurchase evaluation by decreasing usage frequency perceptions. For prepurchase evaluation, however, this indirect effect was not significant ( $ab = .08, 95\% \text{ CI} = [-.13, .41]$ ). When participants considered a hypothetical future purchase, experience variety did not affect usage frequency judgments or product evaluation (see Figure 4).<sup>6</sup>

**Purpose clarity.** A 3 (timing)  $\times$  2 (variety) ANOVA on purpose clarity revealed no significant main effects or interaction (all  $p > .30$ ). Across purchase timing conditions, experience variety had no impact on the perceived clarity of the purchase's purpose ( $M_{\text{low}} = 6.44, SD = .90$  vs.  $M_{\text{high}} = 6.43, SD = .89; F < 1$ ).

## Discussion

Study 5 underscores the underlying role of usage frequency perceptions ( $H_2$ ) and demonstrates how purchase timing moderates experience variety's effects ( $H_4$ ). Consistent with the prior studies, perceiving past experiences with a past purchase as less varied improved postpurchase product evaluation by increasing perceived usage frequency. This same effect emerged when participants considered future experiences with a past purchase. However, because construal level is higher when evaluating hypothetical future purchases, there was no comparable effect on prepurchase evaluation.

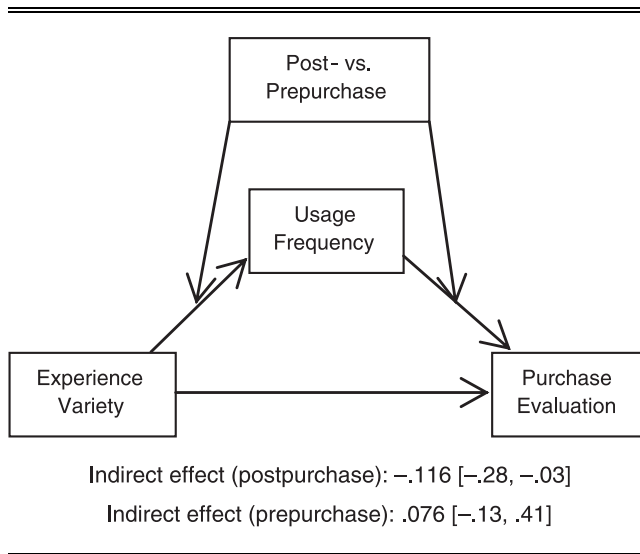
The findings also cast doubt on potential alternative explanations. First, the null effect of experience variety on perceived purpose clarity argues against the possibility that more diverse experiences undermine postpurchase evaluation by obscuring the product's sense of purpose. Second, the moderation and mediation results (here and in Study 4) rule out the possibility that a general preference for less varied usage experiences (or behavioral consistency; Cialdini, Trost, and Newsom 1995) underlies the effects.

Notably, in the postpurchase conditions, participants gave similar examples of past and future usage experiences (e.g., listing "used it at home" and "used it in a meeting" as both past and future experiences with a laptop). When people consider future experiences with a product they already own, they thus seem to spontaneously draw on preexisting knowledge and experiences with the product, resulting in a similar level of mental

<sup>6</sup>When we considered each timing condition separately, there was a significant indirect effect in both postpurchase conditions (past experiences:  $ab = -.12, 95\% \text{ CI} = [-.38, -.01]$ ; future experiences:  $ab = -.10, 90\% \text{ CI} = [-.33, -.01]$ ), but not in the prepurchase condition ( $ab = .07, 90\% \text{ CI} = [-.09, .32]$ ).

Figure 4

USAGE FREQUENCY MEDIATES MODERATED EFFECT ON PURCHASE EVALUATION (STUDY 5)



construal as that of past experiences. Had we explicitly asked people to consider very distant future experiences with a past purchase, or future experiences in a hypothetical context removed from their daily lives, these future experiences would presumably have been represented more abstractly (Trope and Liberman 2010), which might have attenuated the effects. Whether the findings generalize to future experiences with a past purchase may thus depend on how psychologically distant those future experiences are.

### GENERAL DISCUSSION

Consumers often rely on their own and others' product experiences when deciding what to purchase and what to recommend. But although prior work has explored how aspects of individual usage experiences affect product evaluation (e.g., Anderson, Fornell, and Lehmann 1994; Boulding et al. 1993; Oliver 1980), whether the perceived variety of consumers' product experiences also plays a role remains unknown. Might perceiving more or less variety among product usage experiences shape how positively products are evaluated?

In contrast to the intuition that variety should enhance product evaluation, the current research demonstrates that in some situations, perceiving usage experiences as less—not more—varied improves postpurchase evaluation. Five studies demonstrated this effect across a broad range of products and usage experiences. The effect held when we manipulated variety perceptions (Studies 1, 2, 4, and 5) and measured variety perceptions (Study 3), as well as when participants considered both past and future experiences with a product they already owned (Study 5).

The studies also provide insight into the underlying process and highlight downstream consequences for consumer decision making. Perceiving usage experiences as less varied improved postpurchase evaluation by increasing

how frequently consumers think they use the product (Studies 3, 4, and 5). This same mechanism led to greater postpurchase satisfaction, intentions to repurchase the product, and willingness to recommend the product to another person (Studies 1, 3, and 4). Furthermore, factors that weakened the link between usage frequency and positive product evaluation attenuated experience variety's effects. In particular, experience variety had a weaker effect on hedonic (vs. utilitarian) products (Study 4) and for prepurchase (vs. postpurchase) evaluation (Study 5).

Taken together, the studies cast doubt on several alternative explanations. Study 2 rules out the possibility that the observed effect was driven by the content or valence of individual experiences. Studies 2 and 4 rule out a cognitive ease account. Studies 3–5 cast doubt on a potential explanation that the observed effect was due to a general preference for behavioral consistency (Cialdini, Trost, and Newsom 1995), which cannot explain any of our moderation or mediation results. Finally, Study 5 demonstrates that experience variety does not affect the perceived clarity of a product's purpose, suggesting that a clarity-of-purpose account cannot explain why the effect of experience variety is attenuated for hedonic products (Study 4) or in pre-purchase evaluation (Study 5).

### Theoretical Contributions

This article makes several contributions. First, our work makes a unique and important contribution to the variety literature. Whereas prior variety research has suggested that variety often improves consumers' evaluation (Broniarczyk, Hoyer, and McAlister 1998; Iyengar and Lepper 2000; Kahn and Wansink 2004) and consumption experiences (Ariely and Levav 2000; Ratner, Kahn, and Kahneman 1999; Redden 2008), the current work identifies a context in which the opposite pattern emerges: less, rather than more, variety improves product evaluation. A key difference between this prior work and the current research is that whereas prior work focused on how consuming varied options during a single consumption occasion affected enjoyment of that experience, we examine how using the same product across more or less varied situations affects that product's evaluation. Although more variety may improve the enjoyment of individual consumption episodes, in some situations, less variety improves how multiple episodes with the same product affect that product's evaluation.

Another important difference is the type of products examined. Whereas prior work on variety seeking, hedonic adaptation, and satiation has generally focused on experiential or sensory consumption (e.g., food, music, art, film), our findings are consistent with prior work that documents a positive relationship between usage frequency and evaluation of durable goods. Indeed, Study 4 demonstrated that more frequent usage perceptions (due to decreased experience variety) improve postpurchase evaluation when utilitarian product characteristics are made salient, but not when hedonic characteristics are made salient. In summary, the current work goes beyond prior research on variety seeking by examining a novel question in a context distinct from those previously considered. Variety is a multifaceted construct that may lead to different

effects in different situations, and further research may investigate additional judgment contexts in which less, rather than more, variety is beneficial.

Second, this research demonstrates a novel way that product usage experiences affect postpurchase product evaluation. Whereas prior work has primarily focused on aspects of individual experiences (e.g., Dodds, Monroe, and Grewal 1991; Sheth, Newman, and Gross 1991), our findings show that, holding constant the content and positivity of individual experiences, the perceived variety among consumers' usage experiences also plays a role in product evaluation.

Third, our findings further understanding of how consumers make usage frequency judgments, a question of interest to marketing scholars and behavioral economists for decades. Prior work has identified several heuristics used to judge frequency, such as representativeness and availability (Menon, Raghubir, and Schwarz 1995; Tversky and Kahneman 1973), as well as cues such as value, simplicity, fluency, and socially constructed expectations (Dai, Wertenbroch, and Brendl 2008; Goodman and Irmak 2013; Hamilton, Ratner, and Thompson 2011; Nunes 2000; Redden and Frederick 2011). We identify a novel factor that shapes usage frequency judgments: the perceived variety of experiences consumers have with a product.

#### *Directions for Further Research*

In addition to product nature (hedonic vs. utilitarian) and purchase timing (pre- vs. postpurchase evaluation), we speculate that additional factors may moderate the observed effects. For example, prior research has suggested that for special-occasion goods, inferring that usage is uncommon and out of the ordinary improves product evaluation (Pocheptsova, Labroo, and Dhar 2010). Consequently, by increasing how often products seem to be used, less varied usage experiences may detract from evaluation of such products. Marketers of luxury and special-occasion products may, in fact, be better off highlighting distinct usage situations.

Further research may explore whether variety perceptions play a role in other numerosity judgments. For example, the variety of new products in a certain category (e.g., smartphone brands, hybrid cars) may influence consumers' perceptions of prevalence and rate of adoption. This, in turn, may have consequences for consumers' decisions to adopt or abandon products in those categories (Berger and Le Mens 2009). It would also be worthwhile to consider whether experience variety affects reasoning and decision justifiability (Sela, Berger, and Liu 2009).

More generally, future work could further explore the relationship between product usage and evaluation. As discussed in the introduction to this article, prior research has provided examples of situations in which perceiving usage as more frequent is beneficial for product evaluation (Dodds, Monroe, and Grewal 1991; Hamilton, Ratner, and Thompson 2011; Monroe 1990; Nunes 2000; Tanner and Carlson 2009) and in which perceiving usage as less frequent is beneficial for enjoyment (Nelson, Meyvis, and Galak 2009; Redden 2008). Integrating these findings within a single framework would enhance understanding of how usage frequency shapes evaluation.

#### *Practical Implications*

This research has several implications for marketing practice. Firms benefit from positive postpurchase evaluation (Rust and Zahorik 1993; Zeithaml, Berry, and Parasuraman 1996) and often solicit postpurchase feedback by prompting customers to reflect on prior usage experiences. In such cases, our findings suggest that subtle cues that lead consumers to think of their experiences as more diverse (e.g., "Think about various experiences you've had with [the product]") may inadvertently lead consumers to perceive less frequent usage and consequently like that product less. Similarly, portraying usage experiences as less unique and more repetitive in commercials and advertisements may—perhaps counterintuitively—lead current users to perceive more frequent product usage, which should increase loyalty and repeat purchases.

Furthermore, prior work has shown that perceived usage frequency drives perceptions of idiosyncratic product fit (Hamilton, Ratner, and Thompson 2011; Kivetz and Simonson 2003). Marketing and communications decisions that decrease perceived experience variety may thus enhance such assessments of fit, which should, in turn, influence consumers' response to marketing offers and promotions (Kivetz and Simonson 2003; Sela, Simonson, and Kivetz 2013).

Finally, if experience variety's effect on usage frequency judgments generalizes to new product adoption, as previously discussed, marketers may modify their offerings to influence consumers' adoption and abandonment decisions. If two brands in a new product category are perceived as visually similar to each other (e.g., Toyota Prius and Honda Insight), for example, this should make that new product category (e.g., hybrid cars) seem more abundant or frequent. Increasing the perceived abundance of the innovation in the market may facilitate diffusion at early stages of the product life cycle (Bass 1969), benefiting new product sales for brands with high marketing capabilities.<sup>7</sup> Conversely, emphasizing how products differ from others in the category may help decrease their perceived abundance, slowing the rate of abandonment in mature life-cycle stages (Berger and LeMens 2009; Keller, Sternthal, and Tybout 2002).

#### *Conclusion*

Product usage experiences play a key role in postpurchase evaluation and subsequent purchase decisions. Consumers look to their own experiences, as well as others' experiences, when deciding what to buy and what to recommend. Five studies demonstrate that perceiving usage experiences as less—not more—varied can improve postpurchase evaluation by increasing how frequently consumers think they use the product. Contrary to marketers' intuition, in some situations highlighting less varied (or even the same) usage experiences may increase how positively consumers evaluate the products that they buy.

<sup>7</sup>Notwithstanding, the innovation at the category level must still be perceived as significantly different from existing solutions (e.g., hybrid cars vs. traditional cars).

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## WEB APPENDIX

### *HOW EXPERIENCE VARIETY SHAPES POST-PURCHASE PRODUCT EVALUATION*

Jordan Etkin

Aner Sela

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## WEB APPENDIX A

### *STUDY 2 TABLES*

#### *Purchase Coding Examples*

Product Category	<i>N</i>	Examples
Clothes & Beauty	28	Backpack, t-shirt, hairspray, shoes, wallet.
Entertainment	46	Netflix, video games, DVDs, and musical instruments.
Household	19	Bed sheets, vacuum cleaners, sofas, espresso machines, and washer-dryers.
Transportation	13	Cars, mountain bikes, trailer lights, and helmets.
Electronic	16	Desktop computers, iPhones, laptops, and microwave.

#### *Product Evaluation Results by Product Category*

Product Category	<i>N</i>	$M_{\text{low variety}}$	$M_{\text{high variety}}$
Clothes & Beauty	28	6.21	5.72
Entertainment	46	6.12	6.01
Household	19	6.39	5.33
Transportation	13	6.87	6.08
Electronic	16	5.63	4.94

*Hedonic-Utilitarian Post-Test*

<b>Product Category</b>	<b><math>M_{\text{pleasurable}}</math></b>	<b><math>M_{\text{functional}}</math></b>	<b>Paired-Samples t-test</b>	<b>p-value</b>
Clothes & Beauty	4.94	5.92	-3.55	.001
Entertainment	6.72	4.08	10.10	.000
Household	4.08	6.38	-7.63	.000
Transportation	4.74	6.32	-6.61	.000
Electronic	6.06	6.24	-.96	.340



## WEB APPENDIX B

### STUDY STIMULI

#### *Study 1 Instructions*

Do you own a pair of sneakers?

☐ Yes

☐ No

[“No”]

This study is about how people use sneakers, and because you indicated that you don’t own sneakers, you are unfortunately unable to participate. Thank you for your interest and your time.

[“Yes”]

We are interested in how people use sneakers. On the next page you will be asked to think about experiences you have had with your pair of sneakers and answer questions about those experiences.

[*Low Variety*]

List three **similar** experiences you have had with your sneakers. These experiences may include specific situations, occasions, places, or times that you used the sneakers.

Experience 1 \_\_\_\_\_

Experience 2 \_\_\_\_\_

Experience 3 \_\_\_\_\_

[*High Variety*]

List three **different** experiences you have had with your sneakers. These experiences may include specific situations, occasions, places, or times that you used the sneakers.

Experience 1 \_\_\_\_\_

Experience 2 \_\_\_\_\_

Experience 3 \_\_\_\_\_

[*Purchase Evaluation*]

How much do you like the sneakers?

Don't like that much    1       2       3       4       5       6       7       Like a lot

How happy do these sneakers make you?

Not very happy       1       2       3       4       5       6       7       Very happy

How much do you enjoy using these sneakers?

Enjoy very little       1       2       3       4       5       6       7       Enjoy a lot

*[Purchase Satisfaction]*

How satisfied are you with your sneakers purchase?

Not very satisfied    1       2       3       4       5       6       7       Very satisfied

Given the opportunity to buy this pair of sneakers again, how likely would you be to do so?

Very unlikely to buy again    1       2       3       4       5       6       7       Very likely to buy again

How likely are you to recommend these sneakers to someone that you know?

Very unlikely to recommend    1       2       3       4       5       6       7       Very likely to recommend

*[Demographic information]*

How long ago did you purchase these sneakers? Please give your best estimate:

Years       \_\_\_\_\_

Months       \_\_\_\_\_

What is your age? \_\_\_\_\_

What is your gender? female/male

Did you have any distractions while completing this study? yes/no

Have you seen this or a similar study before? yes/no

### *Study 2 Instructions*

We are interested in how people evaluate their purchase decisions. On the next page you will be asked to describe a recent purchase you have made and answer some questions about it.

[*Low Variety*]

In the space provided below, please describe a recent purchase you have made. This purchase should be a durable good (i.e., not food or something else you would only use or consume once).

---

List three experiences you have had with this purchase. These experiences may include specific situations, occasions, places, or times that you used the product.

Experience 1 \_\_\_\_\_

Experience 2 \_\_\_\_\_

Experience 3 \_\_\_\_\_

How are these three experiences **similar** to one another?

[*High Variety*]

In the space provided below, please describe a recent purchase you have made. This purchase should be a durable good (i.e., not food or something else you would only use or consume once).

---

List three experiences you have had with this purchase. These experiences may include specific situations, occasions, places, or times that you used the product.

Experience 1 \_\_\_\_\_

Experience 2 \_\_\_\_\_

Experience 3 \_\_\_\_\_

How are these three experiences **different** from one another?

*[Purchase Evaluation]*

How much do you like your recent purchase?

Don't like that much    1       2       3       4       5       6       7       Like a lot

How happy does this purchase make you?

Not very happy       1       2       3       4       5       6       7       Very happy

How much do you enjoy using this purchase?

Enjoy very little       1       2       3       4       5       6       7       Enjoy a lot

*[Valence Ratings]*

Below, you will see the three product experiences that you listed earlier. On the scales provided, please rate how positive or negative you felt each experience was.

	Not at all				Very much			
[Experience 1 text]	1	2	3	4	5	6	7	
[Experience 2 text]	1	2	3	4	5	6	7	
[Experience 3 text]	1	2	3	4	5	6	7	

*[Demographic information]*

What is your age? \_\_\_\_\_

What is your gender? female/male

Did you have any distractions while completing this study? yes/no

Have you seen this or a similar study before? yes/no

### *Study 3 Instructions*

We are interested in how people evaluate their purchase decisions. On the next page you will be asked to describe a recent purchase you have made and answer some questions about it.

#### *[Purchase Listing]*

In the space provided below, please describe a recent purchase you have made. This purchase should be a durable good (i.e., not food or something else you would only use or consume once).

---

#### *[Variety Perceptions]*

How would you describe the experiences you have had with your recent purchase?

Variety little variety    1       2       3       4       5       6       7       A lot of variety

#### *[Usage Frequency]*

How many times a week on average do you use this product?

---

#### *[Purchase Evaluation]*

How much do you like your recent purchase?

Don't like that much    1       2       3       4       5       6       7       Like a lot

How happy does this purchase make you?

Not very happy        1       2       3       4       5       6       7       Very happy

How much do you enjoy using this purchase?

Enjoy very little       1       2       3       4       5       6       7       Enjoy a lot

#### *[Purchase Satisfaction]*

How satisfied are you with your recent purchase?

Not very satisfied    1       2       3       4       5       6       7       Very satisfied

Given the opportunity to buy the same product again, how likely would you be to do so?

Very unlikely to buy again    1       2       3       4       5       6       7       Very likely to buy again

How likely are you to recommend this purchase to someone that you know?

Very unlikely to recommend	1	2	3	4	5	6	7	Very likely to recommend
-------------------------------	---	---	---	---	---	---	---	-----------------------------

*[Demographic information]*

What is your age? \_\_\_\_\_

What is your gender? female/male

Did you have any distractions while completing this study? yes/no

Have you seen this or a similar study before? yes/no

*Study 4 Instructions*

Do you own a coffee mug?

☐ Yes

☐ No

[“No”]

This study is about people's coffee drinking behaviors, and because you indicated that you don't have a mug for drinking coffee, you are unfortunately unable to participate. Thank you for your interest and your time.

[“Yes”]

We are interested in people's coffee drinking behaviors.

[*Control Frame*]

On the next several pages, you will be asked to think about specific coffee drinking experiences and answer questions about them.

[*Utilitarian Frame*]

Before we continue, take a moment and think about how drinking coffee is a functional experience. Focus on how drinking coffee is useful.

Describe your thoughts in the space provided below:

On the next several pages, you will be asked to think about specific coffee drinking experiences and answer questions about them.

[*Hedonic Frame*]

Before we continue, take a moment and think about how drinking coffee is a pleasurable experience. Focus on how drinking coffee is fun.

Describe your thoughts in the space provided below:

On the next several pages, you will be asked to think about specific coffee drinking experiences and answer questions about them.

*[Identical]*

People use a mug to drink coffee in multiple situations.

Imagine that is Wednesday. **You use your mug to drink coffee in the morning.**

To help you visualize yourself in this usage situation, please type: "I use my mug to drink coffee in the morning on Wednesday" in the space below:

---

Now, imagine that is Thursday. **You use your mug to drink coffee in the morning.**

To help you visualize yourself in this usage situation, please type: "I use my mug to drink coffee in the morning on Thursday" in the space below:

---

*[Varied]*

People use a mug to drink coffee in multiple situations.

Imagine that is Wednesday. **You use your mug to drink coffee in the morning.**

To help you visualize yourself in this usage situation, please type: "I use my mug to drink coffee in the morning on Wednesday" in the space below:

---

Now, imagine that is Thursday. **You use your mug to drink coffee while working.**

To help you visualize yourself in this usage situation, please type: "I use my mug to drink coffee while working on Thursday" in the space below:

---

*[Usage Frequency]*

How often do you use your coffee mug?

Not very often      1      2      3      4      5      6      7      Very often





### *Study 5 Instructions*

We are interested in how people evaluate their purchase decisions. On the next page you will be asked to describe a recent purchase you have made and answer some questions about it.

#### *[Low Variety Past Purchase-Past Experiences]*

In the space provided below, please describe a recent purchase you have made. This purchase should be a durable good (i.e., not food or something else you would only use or consume once).

---

List three **similar** experiences you have had with this purchase. These experiences may include specific situations, occasions, places, or times that you used the product.

Experience 1 \_\_\_\_\_

Experience 2 \_\_\_\_\_

Experience 3 \_\_\_\_\_

#### *[High Variety Past Purchase-Past Experiences]*

In the space provided below, please describe a recent purchase you have made. This purchase should be a durable good (i.e., not food or something else you would only use or consume once).

---

List three **different** experiences you have had with this purchase. These experiences may include specific situations, occasions, places, or times that you used the product.

Experience 1 \_\_\_\_\_

Experience 2 \_\_\_\_\_

Experience 3 \_\_\_\_\_

#### *[Low Variety Past Purchase-Future Experiences]*

In the space provided below, please describe a recent purchase you have made. This purchase should be a durable good (i.e., not food or something else you would only use or consume once).

---

List three **similar** experiences you will have with this purchase **in the future**. These experiences may include specific situations, occasions, places, or times that you used the product.

Experience 1 \_\_\_\_\_

Experience 2 \_\_\_\_\_

Experience 3 \_\_\_\_\_

*[High Variety Past Purchase-Future Experiences]*

In the space provided below, please describe a recent purchase you have made. This purchase should be a durable good (i.e., not food or something else you would only use or consume once).

\_\_\_\_\_

List three **different** experiences you will have with this purchase **in the future**. These experiences may include specific situations, occasions, places, or times that you used the product.

Experience 1 \_\_\_\_\_

Experience 2 \_\_\_\_\_

Experience 3 \_\_\_\_\_

*[Low Variety Future Purchase]*

In the space provided below, please describe a purchase you are planning to make in the future. This purchase should be a durable good (i.e., not food or something else you would only use or consume once).

\_\_\_\_\_

List three **similar** experiences you will have with this purchase **in the future**. These experiences may include specific situations, occasions, places, or times that you used the product.

Experience 1 \_\_\_\_\_

Experience 2 \_\_\_\_\_

Experience 3 \_\_\_\_\_

*[High Variety Future Purchase]*

In the space provided below, please describe a purchase you are planning to make in the future. This purchase should be a durable good (i.e., not food or something else you would only use or consume once).

---

List three **different** experiences you will have with this purchase **in the future**. These experiences may include specific situations, occasions, places, or times that you used the product.

Experience 1 \_\_\_\_\_

Experience 2 \_\_\_\_\_

Experience 3 \_\_\_\_\_

*[Usage Frequency]*

*\*Wording in future purchase conditions in [ ]*

How often do you use [do you think you will use] this purchase?

Not very often      1      2      3      4      5      6      7      Very often

*[Purchase Evaluation]*

How much do you like your recent purchase [think you will like your intended purchase]?

Don't like that much    1      2      3      4      5      6      7      Like a lot

How happy does this purchase make you [do you think this purchase will make you]?

Not very happy      1      2      3      4      5      6      7      Very happy

How much do you enjoy using this purchase [will you enjoy using this purchase]?

Enjoy very little      1      2      3      4      5      6      7      Enjoy a lot

*[Purpose Clarity]*

To what extent do you agree with the following: This purchase has a clear sense of purchase.

Strongly disagree    1      2      3      4      5      6      7      Strongly agree

*[Additional Measures]*

How likely are you to recommend this purchase to someone you know?

Very unlikely to recommend	1	2	3	4	5	6	7	Very likely to recommend
-------------------------------	---	---	---	---	---	---	---	-----------------------------

Think back to the purchase you described a few minutes ago. To what extent would you consider this product:

	Not at all				Very much		
Hedonic	1	2	3	4	5	6	7
Utilitarian	1	2	3	4	5	6	7

Think back to the purchase you described a few minutes ago. To what extent would using this item be:

	Not at all				Very much		
Exciting	1	2	3	4	5	6	7
Novel	1	2	3	4	5	6	7
Interesting	1	2	3	4	5	6	7

*[Demographic information]*

What is your age? \_\_\_\_\_

What is your gender? female/male

Did you have any distractions while completing this study? yes/no

Have you seen this or a similar study before? yes/no

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