

People Rely Less on Consumer Reviews for Experiential than Material Purchases

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CONTRIBUTION STATEMENT

This research demonstrates that people rely less on consumer reviews for experiential than material purchases, because they believe that reviews of experiential purchases are based less on the purchase's objective quality. These findings contribute to three streams of literature. First, building on an established body of work comparing the downstream consequences of purchasing experiences versus material goods, emerging work has begun documenting when and why people might decide to make one type of purchase over the other. This research contributes to such pre-purchase comparisons by instead exploring differences in how people decide what option to buy within each purchase type. Demonstrating how and why people rely on consumer reviews differently for each purchase type, this research provides one of the first examinations into the decision processes through which people choose among different experiential (or material) purchase options. Second, this research informs how different types of purchases are influenced by word-of-mouth, thus contributing to another emerging literature on the psychology underlying the perceived usefulness of consumer reviews. Third, these findings extend new research showing that individuals differ in their beliefs about the extent to which a purchase is assessed based on its objective quality by showing that such beliefs also vary across purchase domains. We further demonstrate that this systematic difference in beliefs influences an important outcome: consumers' willingness to rely on consumer reviews.

ABSTRACT

An increasingly prevalent form of social influence occurs online where consumers read reviews written by other consumers. Do people rely on consumer reviews differently when making experiential purchases (events to live through) than when making material purchases (objects to keep)? An analysis of more than 6 million reviews on Amazon.com and four laboratory experiments reveal that people are less likely to rely on consumer reviews for experiential purchases than for material purchases. This effect is driven by beliefs that reviews are less reflective of the purchase's objective quality for experiences than for material goods. These findings not only inform how different types of purchases are influenced by word-of-mouth, but they illuminate the psychological processes underlying shoppers' reliance on consumer reviews. Furthermore, as one of the first investigations into how people choose among various experiential and material purchase options, these findings suggest that people might be more open to being told what to *have* than what to *do*.

Keywords: experiential purchases, material purchases, consumer reviews, objective quality

In preparing for her first ski trip, this paper's first author needs to book a hotel room and make restaurant reservations, and also acquire a camera and a pair of skis. While all of these purchases will be instrumental to her enjoyment of the trip, the former are more experiential (events to live through), whereas the latter are more material (possessions to keep). How might this difference in purchase type affect her decision process? Will she rely on consumer reviews equally when choosing a hotel and restaurants as when choosing a camera and skis?

It is well known that people's attitudes toward products, services, and retailers are often shaped by others (Cialdini and Goldstein 2004; Goldstein, Cialdini, and Griskevicius 2008), and an increasingly prevalent form of social influence occurs online where people read reviews written by other consumers (Chen and Xie 2008; Keen 2008; Mayzlin, Dover, and Chevalier 2012). Recent surveys report that more than 90% of people read consumer reviews before making a purchase (BrightLocal 2015), and two-thirds of people trust opinions of anonymous online consumers (Nielsen 2015). It is thus not surprising that consumer reviews can have a considerable influence on product sales (Godes and Mayzlin 2004; Chevalier and Mayzlin 2006; Moe and Trusov 2011; Cui, Zhang, and Bassamboo forthcoming) and even stock prices (Tirunillai and Tellis 2012). Given the increasing importance of consumer reviews, it has become critical to understand the extent to which people rely on this source of information across their various purchase decisions.

The current research compares experiential and material purchases and tests how and why people rely on consumer reviews differently when making these purchases. By "reliance on consumer reviews," we mean the extent to which people find the consumer reviews they read useful and are influenced by them. Though there are countless review websites with endless numbers of consumer reviews that shoppers can search for and read, not all of these reviews are

equally helpful in deciding what to buy. Indeed, many shopping and review websites—such as Amazon.com, Best Buy, Expedia, and TripAdvisor—allow shoppers to vote whether the consumer reviews on their site are helpful or not (Forman, Ghose, and Wiesenfeld 2008; Yin, Bond, and Zhang 2014, 2017). This research examines whether the extent to which people consider consumer reviews as helpful differs depending on the type of purchase being made.

Across an archival field study and four laboratory experiments, we find that people rely less on consumer reviews when making experiential purchases than when making material purchases. This is because people believe that assessments of experiences (compared to material goods) are based less on the purchase's objective quality, which makes other consumers' reviews less helpful for their purchase decision.

These findings make important contributions to three streams of literature. First, prior work comparing experiential and material purchases has predominantly focused on the post-purchase effects of experiences relative to material possessions (Gilovich, Kumar, and Jampol 2015a for a review). Though newer work has begun focusing on pre-purchase effects by examining when and why people might choose one purchase type over the other (Kumar, Killingsworth, and Gilovich 2014; Pchelin and Howell 2014; Kumar and Gilovich 2015, 2016; Tully, Hershfield, and Meyvis 2015; Goodman, Malkoc, and Stephenson 2016; Goodman and Lim forthcoming), our work advances this literature by examining how the decision processes differ when people are deciding what to buy within each purchase type. Second, these findings inform the field's understanding of how different types of purchases are influenced by word-of-mouth (Berger 2014). By identifying beliefs about objective quality as a key driver, this research further illuminates the psychological processes underlying the perceived usefulness of consumer reviews (Chen and Lurie 2013; Moore 2015; de Langhe, Fernbach, and Lichtenstein 2016; Yin et

al. 2014, 2017). Third, building on new research revealing that individuals vary in their beliefs about the extent to which purchases are assessed based on objective quality (Spiller and Belogolova 2017), our findings highlight that these beliefs also systematically vary across different purchase types. Furthermore, we document an important implication of such beliefs by demonstrating their impact on people's reliance on consumer reviews.

EXPERIENTIAL VS. MATERIAL PURCHASES

Van Boven and Gilovich (2003) defined experiential purchases as “those made with the primary intention of acquiring a life experience: an event or series of events that one lives through” and material purchases as “those made with the primary intention of acquiring a material good: a tangible object that is kept in one's possession” (page 1194). Although the two categories cannot always be precisely separated, consumers share the intuition underlying this classification and can readily place a purchase on the experiential-material spectrum (Van Boven and Gilovich 2003; Gilovich, Kumar, and Jampol 2015b).

To date, the research comparing experiential and material purchases has largely focused on understanding the consequences of these purchases, such as the happiness (Van Boven and Gilovich 2003), satisfaction (Carter and Gilovich 2010), and regret (Rosenzweig and Gilovich 2012) they elicit, as well as their effect on interpersonal relationships (Chan and Mogilner 2017). Research exploring the reasons for these outcomes shows that compared to material possessions, experiential purchases are more closely tied to one's self-identity (Carter and Gilovich 2012), harder to compare against forgone alternatives (Carter and Gilovich 2010), less interchangeable across options (Rosenzweig and Gilovich 2012), subject to slower rates of hedonic adaptation (Nicolao, Irwin, and Goodman 2009), more likely to elicit intense emotions (Chan and Mogilner

2017), and more often shared with others (Caprariello and Reis 2013; Kumar and Gilovich 2015). For a review, see Gilovich et al. (2015a).

More recently, research comparing experiential and material purchases has begun examining differences that occur before a purchase is made. Researchers have found that people derive greater utility from anticipating and talking about future experiential purchases (Kumar et al. 2014; Kumar and Gilovich 2015) and are therefore willing to wait longer before consuming experiences than material goods (Kumar and Gilovich 2016). Also, when deciding between purchasing an experience versus a material good, people prefer the material good when they feel financially constrained (Tully et al. 2015), and they mistakenly forecast that material goods are a better use of money (Pchelin and Howell 2014). Further, people predict that material goods will make better gifts (Goodman and Lim forthcoming), yet view experiences as better for celebrating special life events (Goodman et al. 2016).

Though researchers have started to explore factors that influence when and why people might decide to make one type of purchase over the other, research has yet to examine differences that exist between experiential and material purchases in terms of how people decide what option to buy within a given purchase type. Our investigation contributes by examining whether and why people are differentially influenced by others when making an experiential purchase than when making a material purchase. We specifically examine the extent to which people rely on consumer reviews when making these two types of purchases, as well as how people's beliefs about the basis of assessment play a key role.

BELIEFS ABOUT ASSESSMENTS OF OBJECTIVE QUALITY

Though price and personal taste can play a role, a key factor that contributes to a consumer's overall assessment of a purchase option is its objective quality (Johansson, Douglas,

and Nonaka 1985; Zeithaml 1988). Assessments based on quality reflect vertical differentiation across options and allow options to be reliably ranked (de Langhe et al. 2016; Tirole 1988). Spiller and Belogolova (2017) recently found that individuals vary considerably in their *quality assessment beliefs*—that is, their beliefs about the extent to which assessments of a purchase are based on its objective quality (vs. personal taste, for example). For instance, when explaining their choice of one option over another, some people are more likely to describe their chosen option as being objectively better than the alternative and to treat the superiority of their chosen option as a matter of fact.

We propose that beyond differences across *individuals* (Spiller and Belogolova 2017), quality assessment beliefs may also differ across *product domains*—and in particular, between experiential and material purchases. For example, people may believe that a visit to a hot springs resort will be assessed less based on its objective quality than a new hot tub. Such a difference in quality assessment beliefs may arise for several reasons. First, experiences are highly involving on many dimensions (Holbrook and Hirschman 1982; LaSalle and Britton 2003) and subject to personal interpretation (Eliashberg and Sawhney 1994; Hoch 2002), which may contribute to the belief that experiences are less amenable to the relative ranking of options along a singular dimension of quality. Second, unlike material goods, the consumption of an experience tends to be unique to a particular time and place, and it is hard (if not impossible) to simultaneously have and compare two experiences. This may be one reason why people view experiences as less comparable across options than material possessions (Carter and Gilovich 2010; Rosenzweig and Gilovich 2012). Furthermore, because experiences are more closely tied to one's personal identity than material possessions (Carter and Gilovich 2012) and assessments reflecting the objective quality of purchase options tend to focus less on one's self (Spiller and Belogolova

2017), people may perceive evaluations of experiential purchases to be less reflective of objective quality than evaluations of material purchases. Taken together, we propose that people believe consumer reviews of experiential purchases are less based on objective quality than reviews of material purchases.

To explore this proposed link between experiential versus material purchase type and quality assessment beliefs, we conducted a pilot study. We first compiled a list of 87 purchases culled from 16 published papers that compared experiential and material purchases. We then presented these purchases (e.g., beach vacation package, concert ticket, digital camera, stereo system, etc.) to participants recruited on Amazon Mechanical Turk ($N = 261$). Each participant saw a random subset of 10 purchases and rated the extent to which each purchase was material or experiential (1 = “primarily material,” 9 = “primarily experiential”), as well as the extent to which assessments of each purchase were a matter of quality (1 = “definitely not a matter of quality,” 9 = “primarily a matter of quality”). We calculated the average material-experiential rating and the average quality assessment beliefs rating for each purchase. The results showed that the extent to which a purchase was viewed as experiential (vs. material) was significantly and negatively correlated with beliefs about its assessment as based on quality ($r = -.26$, $p = .01$). That is, people viewed assessments of experiential purchases as based less on objective quality than material purchases. Similarly, when we categorized the purchases according to their treatment in the prior papers (38 experiential purchases and 49 material purchases), the results confirmed that people believed assessments of experiential purchases to be based less on objective quality ($M = 5.75$, $SD = 0.93$) than assessments of material purchases ($M = 6.28$, $SD = 0.97$; $t(85) = 2.54$, $p = .01$). See Web Appendix A for the complete list of papers and purchases, as well as the full survey and analyses.

These results offer preliminary evidence to suggest that compared to material purchases, people believe that experiential purchases involve assessments that are less based on objective quality. Next, we theorize why such differences would influence people's reliance on consumer reviews, such that people rely less on consumer reviews for experiential purchases than for material purchases.

RELIANCE ON CONSUMER REVIEWS

People generally prefer advisors and are more willing to use another's behavior as a decision input when they believe the other's judgment is objective rather than subjective (Gorenflo and Crano 1989; Olson, Ellis, and Zanna 1983; Spears, Ellemers, and Doosje 2009). For example, males were more interested in knowing their peers' ratings of a female's attractiveness when led to believe that beauty is objective (vs. subjective; Olson et al. 1983). This tendency to rely heavily on others' objective judgments likely translates into people's tendency to rely more on consumer reviews for purchases they believe to be assessed based on objective quality.

Though people may search for and read reviews for a variety of reasons, consumer reviews are *useful* to the extent they help people predict what their own evaluations of an option would be when (and if) consumed (Yaniv, Choshen-Hillel, and Milyavsky 2011). Reviews that reflect the objective quality of an option are particularly predictive of that option's absolute value across consumers (Simonson and Rosen 2014). Indeed, when people believe there to be less heterogeneity across people's assessments of purchase options, they expect others' advice and reviews to be more useful (Price, Feick, and Heige 1989; Feick and Higie 1992). Thus, people should be more likely to rely on consumer reviews they perceive as based on objective quality.

Altogether, we hypothesize that compared to reviews for material purchases, people believe reviews for experiential purchases to be less based on the purchase's objective quality. We further hypothesize that this belief leads people to rely less on consumer reviews for experiential purchases than for material purchases.

OVERVIEW OF STUDIES

We tested these hypotheses in five studies. In study 1, we analyzed archival data of nearly six million consumer reviews posted on Amazon.com and found that people were less likely to rate reviews as helpful for experiential purchases than for material purchases. We then replicated this finding in a series of experiments where we manipulated participants' consideration of an experiential or material purchase. In these studies, we measured participants' reliance on consumer reviews that they actually found online (study 3) or that we adapted from actual online consumer reviews (studies 2, 4, and 5). We measured review reliance in multiple ways: participants' ratings of review helpfulness (study 3), selection of the option with a more favorable review (study 2), and likelihood of changing their purchase decision after reading a slightly negative review (studies 4 and 5). We tested for our proposed mechanism of quality assessment beliefs through both measurement (studies 3 and 4) and manipulation (study 5) and found support for its role in the effect of experiential (vs. material) purchase type on review reliance. In each study, the target sample size was determined in advance of conducting the study, and all data exclusions and manipulations are reported. All measures are listed either in the paper or in the web appendices.

STUDY 1: HELPFULNESS OF CONSUMER REVIEWS ON AMAZON

Study 1 examined whether people find consumer reviews posted on Amazon.com to be less helpful for experiential (vs. material) purchases. Amazon is one of the world's leading

sources for consumer reviews (Ante 2009; Hong 2015). For each review, people shopping on Amazon are asked, “Was this review helpful to you?” to which they can voluntarily respond “Yes” or “No.” For reviews that have received at least one vote, Amazon displays both the number of “Yes” votes and the number of total votes. Prior research shows that Amazon reviews rated as more helpful have a stronger influence on shoppers’ purchase decisions than reviews rated as less helpful (Chen, Dhanasobhon, and Smith 2008). In study 1, we analyzed whether shoppers are less likely to assign a “helpful vote” to Amazon reviews for experiential purchases than for material purchases.

Data

Our data was comprised of consumer reviews posted on Amazon between January 31, 2008 and December 31, 2012 (see Web Appendix B for details about the data source: McAuley and Leskovec 2013). For each review, we gathered the product name, the product category, review title, review date, review text, star rating (1-5 stars), the number of shoppers who responded either “Yes” or “No” to the question asking whether the review was helpful (hereafter, *total votes*), and the number of shoppers who responded “Yes” to indicate that the review was helpful (hereafter, *helpful votes*). Following past research that analyzed the helpfulness of online reviews, we operationalized the helpfulness of a review as the ratio of that review’s helpful votes to its total votes in the main analysis, thus excluding reviews that received zero total votes from the analysis (Forman et al. 2008; Mudambi and Schuff 2010; Yin et al. 2014). The final data included 6,508,574 reviews written about 997,845 products.

Measures

Review helpfulness. The dependent variable equaled the ratio of the number of helpful votes a review received to the number of total votes it received (Forman et al. 2008; Mudambi

and Schuff 2010; Yin et al. 2014). Helpful votes exceeded total votes for 31 of the 6,508,574 reviews. We assigned a ratio of 1 to these extremely rare cases of data error, but the results were robust when we excluded these reviews from the analysis.

Experiential (vs. material) rating. The primary independent variable was the extent to which a given product was experiential or material. Given that the data included approximately one million different products, we assessed the experiential (vs. material) rating of each product based on its product category. To obtain these ratings, we recruited 100 participants from MTurk to complete a product survey in exchange for \$0.50 (see Web Appendix B for the complete survey). We instructed participants to imagine they were shopping on Amazon and presented them with a list of 26 product categories (see table 1 for categories). These categories reflected Amazon's 26 top-level category labels (e.g., books, music, shoes, etc.), except for cases that required additional description for clarity (e.g., we described "Amazon instant videos" as "videos for streaming"). After defining material and experiential purchases (i.e., "material purchases provide something that a person can keep in his/her possession, and experiential purchases provide something that a person can do"; adapted from Van Boven and Gilovich 2003), we asked participants to rate the extent to which products in each category were material or experiential (1 = "purely material," 9 = "purely experiential"). Since inter-rater reliability was high (intraclass correlation coefficient = 0.98), we averaged participants' responses to form an experiential (vs. material) rating for each product category.

Other measures. We accounted for a number of other factors that also might influence review helpfulness. First, given that review helpfulness differs between hedonic products (purchased primarily for pleasure and fun) and utilitarian products (purchased primarily out of necessity and for practical functions; Sen and Lerman 2007; Chu, Roh, and Park 2015; Moore

2015), we also asked the product survey participants to rate the extent to which products in each category were utilitarian or hedonic (1 = “purely utilitarian,” 9 = “purely hedonic”). Participants’ responses were averaged to form a *hedonic rating* for each product category (intraclass correlation coefficient = 0.99).

Second, because people might care more about their experiential purchases than their material purchases (Nicolao et al. 2009), which could influence their reliance on reviews, we also asked the product survey participants to rate how much they would care about their purchase decision when shopping for a product in each of the 26 categories (1 = “not at all,” 7 = “very much”). Participants’ responses were averaged to form a *caring rating* for each product category (intraclass correlation coefficient = 0.94).

Following past research (Mudambi and Schuff 2010; Yin et al. 2014, 2017; Forman et al. 2008), we compiled a number of other review characteristics that could influence review helpfulness. Specifically, for each review, we included the number of words in the text (*review length*), the number of words in the title (*title length*), the star rating given (*star rating*), the number of days between its posting and the final date of data collection, March 4, 2013 (*review age*), and the total number of reviews the product in question had (including reviews with zero total votes and those with at least one total vote; *review availability*).

Table 1 panel A displays descriptive statistics for each product category in terms of experiential (vs. material) rating, review helpfulness, and other aforementioned measures. Table 1 panel B displays the summary statistics of and correlations between these measures.

Table 1. Amazon Consumer Review Data Descriptive Statistics (Study 1)

Panel A. Summary Statistics Across Product Categories

Product Category (Descriptions Used in Our Survey)	Experiential Rating (1-9)	Review Helpfulness (Proportion of Helpful Votes)	Hedonic Rating (1-9)	Caring Rating (1-7)	Review Length (Words)	Title Length (Words)	Star Rating (1-5)	Review Age (in Days)	Review Availability (Number of Reviews per Product)	Number of Reviews	Number of Products
Shoes	2.57	77.16%	3.78	5.29	76.89	3.82	4.01	899.03	15.49	103,048	16,131
Watches	2.58	79.09%	4.75	4.48	95.20	4.00	3.94	1080.63	10.33	16,276	3,046
Office Products	2.62	80.19%	2.68	4.00	91.16	4.26	3.81	964.99	10.34	36,736	6,503
Jewelry	2.72	85.75%	7.34	4.57	59.46	3.37	4.01	1180.35	5.06	15,291	5,710
Electronics	2.84	75.61%	4.08	5.38	112.62	4.48	3.68	1169.31	17.45	286,203	33,817
Home and Kitchen Products (Housewares, Furnishings, Accessories)	2.89	82.59%	3.01	4.82	101.34	4.18	3.76	992.87	15.69	313,685	35,210
Automotive (Parts, Accessories, Tools, or Equipment)	2.95	78.79%	2.61	4.61	87.13	4.18	3.86	838.97	6.40	61,218	17,563
Pet Supplies	3.02	83.35%	2.89	4.51	108.38	4.38	3.79	867.88	16.58	76,192	9,653
Patio, Lawn, and Garden Products	3.15	82.57%	3.95	4.13	99.60	4.14	3.82	931.41	10.74	48,355	7,862
Baby Products	3.26	78.64%	2.61	4.33	118.95	4.44	3.67	1040.25	30.44	32,944	2,950
Tools and Home Improvement	3.73	79.01%	2.61	4.66	101.67	4.26	3.82	930.73	8.94	113,799	21,707
Scientific, Lab, and Industrial Supplies	3.75	73.53%	2.87	4.06	54.00	4.55	4.44	703.66	5.94	42,471	11,757
Beauty Products	3.88	79.27%	6.15	4.16	86.96	3.99	3.91	887.32	11.12	87,684	14,853
Clothing and Accessories	3.89	79.39%	5.72	6.09	78.65	3.93	3.88	892.01	12.40	156,288	27,315
Health and Personal Care	4.66	78.97%	3.50	5.28	93.38	4.11	3.88	872.29	12.69	159,564	21,346
Grocery and Gourmet Foods	4.74	78.87%	3.92	5.46	81.06	4.14	4.01	981.17	8.02	56,084	12,112
Books	4.95	67.34%	5.72	5.14	164.85	4.76	3.99	982.65	6.97	2,220,093	374,686
Musical Instruments	4.95	79.34%	6.27	4.49	105.76	4.23	4.03	889.79	9.90	30,174	7,302
Toys and board games	5.05	80.51%	7.32	4.32	91.21	4.25	3.87	1049.11	8.77	88,300	20,525
Software	5.18	72.79%	4.88	5.30	116.68	4.64	3.20	1372.30	6.87	11,050	2,407
Arts, Crafts, and Sewing	5.20	84.23%	5.80	3.86	88.93	3.93	3.97	790.51	7.19	9,866	2,080
Sports and Outdoors	5.78	79.29%	5.82	4.52	100.87	4.09	3.92	929.90	10.38	140,771	24,015
Video Games	5.93	60.15%	7.90	5.28	147.97	4.65	3.59	1237.53	12.99	56,681	8,532
Music	6.64	69.78%	7.38	5.08	156.15	4.78	4.23	1144.76	4.99	503,410	170,374
Movies and TV Shows	6.70	58.91%	7.87	5.36	153.68	4.76	3.92	975.10	20.91	1,612,171	122,120
Videos for Streaming	7.12	59.66%	7.90	4.92	161.61	4.83	3.70	915.30	19.68	230,220	18,269
All	4.26	68.58%	4.97	4.77	141.18	4.60	3.93	989.15	11.22	6,508,574	997,845

Notes. For experiential, hedonic, and caring ratings that were originally collected at the category level, the last row reports the mean value across 26 product categories. For review availability that was originally collected at the product level, the last row reports the mean value across all products. For variables that were originally collected at the review level (including review helpfulness, review length, title length, star rating, and review age), the last row reports the mean value across all reviews in the data. For the number of reviews and products, the last row reports the total number of reviews and products in the data. In this table, product categories are ordered by experiential ratings (1 = “purely material,” 9 = “purely experiential”).

Panel B. Correlations among Measures

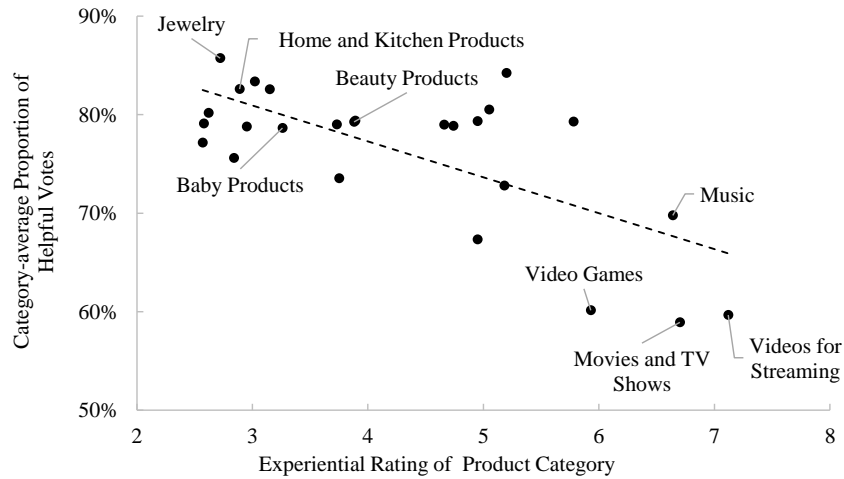
	Mean	SD	1	2	3	4	5	6	7	8
1. Experiential Rating	5.22	1.36								
2. Review Helpfulness	68.58%	39.26%	-0.1657*							
3. Hedonic Rating	6.02	1.65	0.9184*	-0.1656*						
4. Caring Rating	5.12	0.34	0.3052*	-0.0967*	0.3685*					
5. Review Length (Words)	141.18	187.65	0.0998*	0.1259*	0.0951*	0.0503*				
6. Title Length (Words)	4.60	2.96	0.0633*	0.0730*	0.0579*	0.0277*	0.2814*			
7. Star Rating	3.93	1.42	0.0321*	0.2681*	0.0260*	0.0012*	0.0016*	-0.0246*		
8. Review Age (in Days)	989.15	536.75	0.0124*	0.0352*	0.0280*	0.0258*	0.0326*	0.0284*	0.0413*	
9. Review Availability	163.40	375.58	0.0044*	-0.0667*	0.0179*	0.0681*	-0.0035*	-0.0033*	-0.0244*	-0.0612*

Notes. * $p < .05$. This table reports the raw correlation among the independent measure, dependent measure, and covariates at the review level (without clustering standard errors).

Results

As a first pass, we conducted a category-level analysis by calculating the average proportion of helpful votes across all reviews within a given product category. Consistent with our hypothesis, the experiential rating of a product category was negatively correlated with its category average review helpfulness ($r = -.69, p < .0001; N = 26$; figure 1). That is, the more experiential the product category, the smaller the percentage of shoppers who rated its consumer reviews as helpful.

Figure 1. Category-Average Proportion of Helpful Votes as a Function of Products' Experiential Ratings (Study 1)



For a more precise analysis, we next turned to Ordinary Least Squares (OLS) regressions at the review level, with review helpfulness as the dependent variable. Similar to prior work that analyzed the helpfulness of Amazon reviews (Forman et al. 2008), we relied on the following OLS regression specification:

$$\text{Review helpfulness}_{ijk} = \alpha_0 + \beta(\text{experiential rating}_k) + \Omega' X_{ijk} + \varepsilon_{ijk}$$

where i indexes the review, j indexes the product, k indexes the product category, X_{ijk} is the vector of control variables, and ε_{ijk} is the error term. Since more than 40% of the products

received more than one review and the error terms are not independent among consumer reviews for the same product, we clustered standard errors at the product level.

We began with a regression that did not include any control variables and simply used experiential rating to predict review helpfulness. The results of this basic model supported our prediction and are reported in model 1 in table 2: Reviews for more experiential purchases were less likely to be rated as helpful than reviews for less experiential purchases ($B = -0.0480$, $SE = 0.0004$, $p < .001$). More specifically, a one-point increase in the experiential rating on the nine-point Likert scale was associated with an average 4.8 percentage-point decrease in the proportion of people who found a review helpful.

Next, we ran a full model including the control variables. Again, consistent with our hypothesis, the relationship between experiential rating and review helpfulness remained negative and significant ($B = -0.0368$, $SE = 0.0009$, $p < .001$; model 2 in table 2). Specifically, a one-point increase in the experiential rating was associated with an average 3.7 percentage-point decrease in the proportion of people who found a review helpful. Though the various control variables could not fully explain the effect of experiential (vs. material) purchases on review helpfulness, the regression results (model 2 in table 2) did support past research in showing that reviews for more hedonic products were viewed as less helpful ($B = -0.0131$, $SE = 0.0007$, $p < .001$; Sen and Lerman 2007).

Robustness checks. The results of the OLS regressions (models 1 and 2 in table 2) remained unchanged in terms of magnitude and statistical significance irrespective of whether we (1) clustered standard errors at the product category level, (2) estimated standard errors without clustering, (3) omitted the 31 reviews for which helpful votes exceeded total votes, or (4) used tobit regression models (Mudambi and Schuff 2010; Yin et al. 2014).

We also modeled helpful votes as an alternative dependent variable and controlled for total votes (Yin et al. 2017) using various regression specifications. Because most reviews in our sample received few helpful votes and a small number of reviews received thousands of helpful votes, the alternative dependent measure, *helpful votes* (mean = 3.05, variance = 538.28) exhibited over-dispersion (over-dispersion parameter = 1.35, $p < 0.0001$ for the log likelihood ratio test of the null hypothesis that the over-dispersion parameter equals zero). Therefore, we ran standard negative binomial regression models (instead of Poisson regressions). To reduce computational complexity, we excluded consumer reviews whose total votes were more than three standard deviations above the mean (i.e., more than 80 votes), which accounted for 0.3% of all reviews in the final dataset.¹ Models 3 and 4 in table 2 report the results of the negative binomial regressions, indicating that reviews for more experiential purchases received fewer helpful votes. Specifically, a one-point increase in the experiential rating on the nine-point Likert scale was associated with a decrease in the number of helpful votes by 6.33% (based on model 3; i.e., $(e^{-0.0654} - 1) * 100\%$) or 2.90% (based on model 4; i.e., $(e^{-0.0294} - 1) * 100\%$). We observed the same patterns when we used (1) zero-inflated negative binomial regressions, (2) Tobit models with the left limit of the dependent variable set equal to zero, and (3) OLS regressions with either helpful votes or the log-transformed helpful votes as the dependent variable (see Web Appendix B).

¹ When all reviews in our final dataset were included, the negative binomial regression models were unable to converge. A careful examination suggested that the rare large values of *helpful votes* (maximum = 32,208, mean = 3.05) and *total votes* (maximum = 32,506, mean = 4.75) were responsible.

Table 2. Review Helpfulness of Amazon Reviews as a Function of Products' Experiential Ratings (Study 1)

Dependent Variable	Review Helpfulness Measured by Proportion of Helpful Votes (0%-100%)		Review Helpfulness Measured by Number of Helpful Votes	
<i>Predictor Variables</i>	Model 1	Model 2	Model 3 ^a	Model 4 ^a
Experiential Rating	-0.0480*** (0.0004)	-0.0368*** (0.0009)	-0.0654*** (0.0009)	-0.0294*** (0.0024)
Hedonic Rating		-0.0131*** (0.0007)		-0.0401*** (0.0018)
Caring Rating		-0.0488*** (0.0014)		-0.0739*** (0.0037)
Review Length		0.0003*** (2.06e-06)		0.0006*** (4.80e-06)
Title Length		0.0073*** (0.0001)		0.0169*** (0.0001)
Star Rating		0.0756*** (0.0008)		0.0599*** (0.0022)
Review Age		1.40e-05*** (1.28e-06)		0.0002*** (3.56e-06)
Review Availability		-5.63e-05*** (1.29e-05)		-5.92e-05 (4.03e-05)
Number of Total Votes			0.1019*** (0.0004)	0.0986*** (0.0004)
Observations	6,508,574	6,508,574	6,487,944	6,487,944
R ² or Pseudo R ²	0.03	0.14	0.16	0.18
Model Specification	OLS		Negative Binomial Regression	

*** indicates significance at the 0.1% level. Standard errors are clustered at the product level and are reported in parentheses.

Note. ^aThese models exclude reviews whose total votes are more than three standard deviations above the mean (because including these reviews with rarely large total votes would cause the models to fail to converge).

Discussion

Study 1 examined helpful votes provided by thousands of actual Amazon shoppers for millions of real consumer reviews. Consistent with our hypothesis, the findings revealed that people are less likely to identify consumer reviews as helpful for products deemed more experiential. The results were robust to different model specifications and data inclusion criteria.

Despite this study's tremendous external validity, it has several limitations that we sought to address in the subsequent experiments. First, the context of Amazon reviews excludes the highly experiential purchases (e.g., restaurant meals, event tickets, and vacations) that people typically think of and that the literature comparing experiential and material purchases has often examined. Even though there was high variation in experiential ratings across Amazon's 26

product categories (ranging from 2.57 to 7.12), 14 of the categories were rated as clearly material (significantly below the scale midpoint), whereas only 5 of the categories were rated as clearly experiential (significantly above the scale midpoint). Thus, to include experiences such as dining out and vacations, all of the remaining studies examined prototypical experiential and material purchases. In particular, study 3 asked participants about an experiential (or material) purchase they planned to make, which allowed us to test our hypotheses across a broad range of purchases—including the highly experiential purchases that fill popular websites (e.g., Yelp and TripAdvisor).

Second, because it is impossible to know the number of shoppers who read a review but did not provide a helpful or unhelpful vote, we could not assess the true proportion of readers who found a review helpful conditional on reading the review. Notably, these results therefore reflect the relationship between how experiential a purchase was and the likelihood that shoppers gave a helpful vote conditional on rating a review (as opposed to reading a review). In the remaining studies, we use a variety of dependent measures that more precisely capture the extent to which shoppers find the reviews they read helpful and rely on the reviews in their decision-making.

Another limitation of this archival field study is that despite controlling for a number of alternative accounts, the correlational nature of this data did not allow us to establish a causal relationship between purchase type and review helpfulness. We thus conducted the subsequent experiments to test the causal effect of experiential (vs. material) purchases on people's reliance on consumer reviews.

STUDY 2: INFLUENCE OF CONSUMER REVIEWS ON CHOICE

Study 2 experimentally tested whether people rely less on consumer reviews for experiential purchases than for material purchases. We assessed reliance on consumer reviews by testing the influence of reviews among participants deciding between two experiential or two material purchase options. We randomly varied which option within each choice pair received a positive or negative review, and predicted that participants deciding between the experiential options would be less swayed to choose the positively reviewed option compared to participants deciding between the material options. To make this a real choice, we entered participants into a drawing, and winners received their chosen option.

Method

Participants. We recruited 212 university students (51% female, $M_{\text{age}} = 20.4$) to complete this study. Since this research focuses on people who are in the process of choosing what to buy, nine participants who had previously consumed the products were excluded from the analysis.

Purchase type manipulation. In this between-subjects study, participants were presented with either two options of cooking classes (experiential condition) or two options of espresso machines (material condition) and asked to choose which they would prefer. They were informed that one in every 100 participants would be randomly selected to receive their chosen option. All options were valued at \$95-\$100.

These purchases were selected based on a pretest ($N = 172$) showing that cooking classes and espresso machines differed in how experiential (vs. material) they were (1 = “purely material”, 9 = “purely experiential”; $M_{\text{cooking_class}} = 6.44$, $SD = 1.89$ vs. $M_{\text{espresso_machine}} = 4.42$, $SD = 2.30$; $t(102) = 4.89$, $p < .0001$), but not in participants’ caring, desire, or knowledge of these

purchases (all $ps > .33$).² Furthermore, study 1 found that material-experiential ratings were positively correlated with utilitarian-hedonic ratings (with experiences being viewed as more hedonic) and that review helpfulness differed between hedonic and utilitarian products (as in past research; Sen and Lerman 2007; Chu et al. 2015; Moore 2015). Given these observations, we addressed the possibility that the hedonic (vs. utilitarian) nature of the purchases might explain the effect of experiential (vs. material) purchase type by selecting a pair of purchases in which the experiential purchase was not more hedonic than the material purchase. A separate pretest ($N = 80$) showed that a cooking class was, in fact, viewed as *less* hedonic than an espresso machine (1 = “purely utilitarian,” 9 = “purely hedonic”; $M_{\text{cooking_class}} = 4.82$, $SD = 1.47$ vs. $M_{\text{espresso_machine}} = 6.41$, $SD = 2.12$; $t(78) = 3.89$, $p = .0002$).

In the main study, for each of the two options, we presented participants with a picture and product description (46-48 words, adapted from its online product information), along with one consumer review. The two options within each choice pair were presented side-by-side, with the order randomized. See Appendix A for the study stimuli.

Consumer review manipulation. Within each choice pair, we randomly assigned a positive 5-star review to one option and a more negative 3-star review to the other option, thereby counterbalancing which option received the positive or negative review. These reviews were adapted from real 5- and 3-star online consumer reviews for cooking classes on Yelp and for espresso machines on Amazon. We ensured that all reviews had the same length (83-85 words), and all reviews of the same valence had the same structure (see Appendix A). For example, positive 5-star reviews in each condition had eight sentences, beginning with the

² Pretest participants were presented with three purchases randomly selected from ten purchases. The comparison between cooking classes and coffee makers involved responses from 104 participants.

sentence: “This is the best [cooking class I have taken / espresso machine I have owned],” and concluding with the sentence: “I would never have thought I could do it so easily!”

A pretest ($N = 120$) confirmed that for both the cooking classes and espresso machines, the positive reviews were viewed as significantly more positive than the negative reviews ($-3 =$ “very negative,” $3 =$ “very positive”; $M_{5\text{-star cooking class}} = 2.62$, $SD = 0.93$ vs. $M_{3\text{-star cooking class}} = 0.38$, $SD = 1.07$; $t(60) = 16.88$, $p < 0.0001$; $M_{5\text{-star espresso machine}} = 2.49$, $SD = 1.15$ vs. $M_{3\text{-star espresso machine}} = 0.37$, $SD = 1.16$; $t(58) = 13.90$, $p < 0.0001$). Also, within each pair of options, the reviews were seen as significantly favoring the option with the positive review over the option with the negative review ($-3 =$ “the reviews definitely favor Option A,” $3 =$ “the reviews definitively favor Option B”; $M_{\text{cooking class}} = 2.39$, $SD = 1.05$ vs. the scale midpoint of 0; $t(60) = 17.75$, $p < 0.0001$; $M_{\text{espresso machine}} = 2.25$, $SD = 1.31$ vs. the scale midpoint of 0; $t(58) = 13.24$, $p < 0.0001$). Importantly, there were no significant differences between the cooking classes and espresso machines in terms of the positivity of the positive reviews, the negativity of the negative reviews, or the extent to which the reviews favored the option with the positive review over the option with the negative review (all $ps > .49$). See Web Appendix C for the results of all study 2 pretests and the procedure for generating consumer reviews.

Reliance on consumer reviews. Participants chose one option from the two presented to them. The dependent measure was whether a participant chose the option with the positive review over the option with the negative review. This measure thereby assessed whether participants relied on the consumer reviews to make their choice.

Manipulation check. Participants rated the extent to which a cooking class [an espresso machine] is a material or experiential purchase ($1 =$ “purely material,” $9 =$ “purely experiential”).

Other measures. Participants indicated whether they had previously heard of or visited either of the cooking schools (or had used either of the brands of espresso machine), and rated how knowledgeable they were about cooking classes (or espresso machines; 1 = “not at all knowledgeable,” 7 = “very knowledgeable”).

Results and Discussion

Manipulation check. The manipulation check confirmed that a cooking class is viewed as more experiential ($M = 6.08$, $SD = 1.75$) than an espresso machine ($M = 4.85$, $SD = 2.02$; $t(201) = 4.62$, $p < 0.0001$).

Reliance on consumer reviews. Participants in the experiential condition were less likely to choose the option with the positive review (66.34%) than those in the material condition (79.41%; $\chi^2(1) = 4.39$, $p = .036$). This suggests that participants relied less on the consumer reviews when deciding for an experiential purchase than when deciding for a material purchase. There was not a significant difference in participants’ knowledge about these purchases ($M_{experiential} = 2.33$, $SD = 1.33$ vs. $M_{material} = 2.38$, $SD = 1.50$; $t(201) = 0.28$, $p = .78$).

One potential alternative explanation for this study’s results is that the product information revealed more differences between the two cooking class options than between the two espresso machine options. With more product information to distinguish between the experiential options, people would not need to rely as much on the consumer reviews to make their selection in the experiential condition as in the material condition. However, this did not seem to be the case based on a pretest we conducted. In a within-subjects pretest ($N = 30$), we presented participants with the same names, pictures, and product descriptions (without a consumer review) for each pair of options in random order, and asked participants to indicate which of the two options they would be more likely to choose. We found that the relative

preferences for the two options did not differ between the two purchase types ($M_{\text{experiential}} = 4.80$, $SD = 1.69$ vs. $M_{\text{material}} = 4.77$, $SD = 1.87$; $t(29) = 0.07$, $p = 0.94$).³ Thus, the observed difference in reliance on consumer reviews in the main study was unlikely driven by variations in the provided product information.

Study 2 leveraged random assignment through an experimental design and corroborated the results of study 1's field data. Using a behavioral measure for reliance on consumer reviews and an incentive-compatible design, study 2 provided further evidence that people rely less on consumer reviews when making an experiential purchase than when making a material purchase.

We conducted two additional experiments that manipulated participants' focus on the experiential or material aspects of the same purchase (a sleeping bag in Web Appendix D and a mattress in Web Appendix E). Similar to Carter and Gilovich (2010; study 6), this approach is based on the insight that many purchases have both experiential and material attributes (e.g., a mattress is a material possession that offers the experience of a good night's sleep). The results indicated that participants relied less on consumer reviews in the experiential conditions than in the material conditions. With all aspects of the purchase held constant other than its experiential or material nature, these studies provide a conservative conceptual replication of the effect observed in study 2.

The next study again tests for the effect of experiential (vs. material) purchase type on review reliance, but in the context of real consumer reviews for purchases that participants

³ This pretest (described in detail in Web Appendix C) additionally confirmed that the pair of cooking classes and the pair of espresso machines did not significantly differ in terms of (1) how much participants desired each pair of options ($p = .57$), (2) how much participants cared about choosing between the two options within the pair ($p = .82$), and (3) how familiar participants were with each option (ps for all pairwise comparisons $> .14$).

actually planned to make. Further, the next study explores the psychological underpinnings for the effect.

STUDY 3: THE ROLE OF QUALITY ASSESSMENT BELIEFS

Study 3 sought to conceptually replicate the effect observed in study 2 across a broad array of actual planned purchases by asking participants to describe either an experiential or material purchase they intended to make in the coming year. To further enhance realism, participants then searched online for and read real consumer reviews about their purchase, and reported the usefulness of these reviews for their purchase decision. Finally, this study tested the proposed mechanism by asking participants to report the extent to which the reviews reflected the previous consumers' assessments of the purchase's objective quality.

Method

Participants. A total of 301 participants (54% female; $M_{\text{age}} = 36.7$, 2 unspecified) recruited through MTurk completed this study in exchange for \$1.00.

Purchase type manipulation. In this between-subjects study, participants were randomly assigned to specify either an experiential or material purchase that cost at least \$50, which they planned to make in the coming year. Participants in the experiential condition were instructed to think of a purchase that “involves spending money with the primary intention of acquiring a life experience—an event or series of events that you personally will encounter or live through.” Participants in the material condition were instructed to think of a purchase that “involves spending money with the primary intention of acquiring a material possession—a tangible object that you obtain and keep in your possession” (adapted from Van Boven and Gilovich 2003). To control for the possibility that experiential purchases may be more hedonic or have fewer

reviews available than material purchases, we additionally instructed participants in both conditions to list a fun and enjoyable purchase that had online consumer reviews available.

Reliance on consumer reviews. Participants were then instructed to search for and read five online reviews written by other consumers about the purchase they had specified. They were told that they could look for consumer reviews anywhere online and were asked to copy the five reviews they read into the survey. Importantly, participants spent a similar amount of time searching for and reading reviews between the two conditions ($p = 0.70$), suggesting that it was not harder for participants to find reviews for one purchase type than the other. For the consumer reviews they read, participants reported how helpful the reviews were (1 = “not at all,” 7 = “extremely”), how useful the reviews were (1 = “not at all,” 7 = “extremely”), and how much they would rely on these consumer reviews for their purchase decision (1 = “not at all,” 7 = “very much”). These three items were averaged to serve as the primary dependent variable: reliance on consumer reviews ($\alpha = .93$).

Quality assessment beliefs. To test the proposed mechanism, on the next page, we asked participants to indicate the extent to which the reviews they read reflected other consumers’ objective assessments of the purchase’s quality (1 = “not at all,” 7 = “a great deal”), which was adapted from Spiller and Belogolova (2017).

Manipulation check. Participants rated the extent to which their planned purchase was material or experiential (1 = “purely material,” 9 = “purely experiential”).

Other measures. Participants listed the website(s) on which they found the consumer reviews. For controls, we also asked participants to indicate the number of different options their five reviews covered, as well as to rate how much they cared about their purchase decision, how important the purchase was to them, and how engaged they were in this purchase decision (1 =

“not at all,” 7 = “very much”). These last three items were averaged to create a measure of *purchase importance* ($\alpha = .82$). Finally, participants rated how knowledgeable they were about the purchase (1 = “not at all,” 7 = “very much”) and indicated how much money they would spend on the purchase. See Web Appendix F for the complete measures.

Results

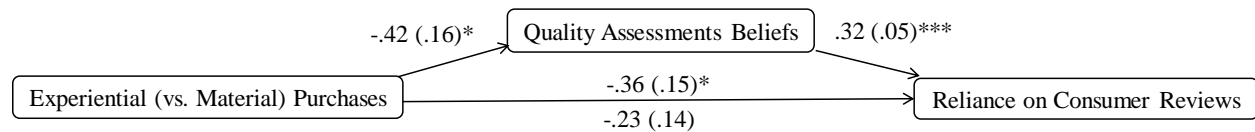
Manipulation check. Participants listed a wide range of hedonic experiential purchases (e.g., dinner at a restaurant, vacations, and event tickets) and hedonic material purchases (e.g., home accessories, fun clothing items, and electronic gadgets). Participants in the experiential condition rated their planned purchase as more experiential ($M = 7.81$, $SD = 1.68$) than participants in the material condition ($M = 3.36$, $SD = 2.29$; $t(299) = 4.61$, $p < 0.0001$).

Reliance on consumer reviews. Participants largely found reviews on popular websites such as Yelp, TripAdvisor, Amazon, and Best Buy. Across an array of hedonic experiential and material purchases that participants planned to make, participants found the consumer reviews for experiential purchases ($M = 5.44$, $SD = 1.39$) to be less useful than those for material purchases ($M = 5.80$, $SD = 1.39$; $t(299) = 2.49$, $p = .01$).

Mediation by quality assessment beliefs. To test the proposed mechanism, we examined the role of quality assessment beliefs. As predicted, compared to material purchases ($M = 5.28$, $SD = 1.40$), participants perceived that reviews of an experiential purchase reflected quality assessments to a lesser degree ($M = 4.86$, $SD = 1.41$; $t(299) = 2.57$, $p = .01$). Moreover, a 5,000-sample bootstrap analysis (model 4 in Hayes 2013) estimated an indirect effect of purchase type on reliance on reviews via quality assessment beliefs as -0.13 ($SE = 0.06$), and the 95% bias-corrected confidence interval (CI) of the indirect effect did not include zero ($[-0.26, -0.04]$).

Thus, quality assessment beliefs mediated the influence of purchase type on review reliance (figure 2).

Figure 2. The Effect of Experiential (vs. Material) Purchase Type on Review Reliance is Mediated by Quality Assessment Beliefs (Study 3)



Notes. Unstandardized regression coefficients are shown, and standard errors are presented in parentheses. The coefficient above the path from purchase type to reliance on consumer reviews represents the total effect without the mediator in the model; the coefficient below the path represents the direct effect when the mediator was included in the model. Coefficients significantly different from zero are indicated by asterisks (* $p < .05$, ** $p < .01$, *** $p < .001$).

Other measures. The results indicated no significant differences between experiential and material purchases in the number of options discussed by the reviews participants read ($M_{\text{experiential}} = 1.49$, $SD = 1.05$ vs. $M_{\text{material}} = 1.46$, $SD = 1.09$; $t(292) = 0.23$, $p = .81$), purchase importance ($M_{\text{experiential}} = 6.03$, $SD = 0.96$ vs. $M_{\text{material}} = 5.90$, $SD = 0.97$; $t(299) = 1.20$, $p = .23$), purchase knowledge ($M_{\text{experiential}} = 5.41$, $SD = 1.27$ vs. $M_{\text{material}} = 5.43$, $SD = 1.24$; $t(299) = 0.18$, $p = .86$), or log-transformed expected cost ($M_{\text{experiential}} = 5.33$, $SD = 1.21$ vs. $M_{\text{material}} = 5.29$, $SD = 1.04$; $t(298) = 0.26$, $p = .80$).⁴ Furthermore, when we included all of these measures in a multi-mediator model (model 4 in Hayes 2013) along with quality assessment beliefs, quality assessment beliefs was the only significant mediator (indirect effect = -0.11 , $SE = 0.05$, 95% CI = $[-0.24, -0.03]$).

Discussion

⁴ When asked how many options were discussed in the five reviews they read, seven participants did not write down a valid number; these participants were excluded from the analysis for this question. Also, one participant did not give a valid value for expected cost and was excluded from the analysis involving expected cost.

Amongst actual planned purchases that had consumer reviews readily available, people found the reviews they read to be less useful for experiential purchases than for material purchases. This was because people viewed assessments of experiential purchases to be less a matter of quality than material purchases. This study explored a number of potential alternative explanations, none of which gained supportive evidence. Overall, study 3's results provide initial evidence that quality assessment beliefs play a unique role in the influence of purchase type on the extent to which people rely on consumer reviews. Though having participants search for and read online consumer reviews for purchases they were actually planning to make provided external validity, we sought to conceptually replicate these findings in the next study using more tightly controlled stimuli.

STUDY 4: CONTROLLING REVIEW CONTENT, ANOTHER TEST OF MECHANISM

The objective of Study 4 was to provide further evidence that quality assessment beliefs are responsible for the difference in review reliance between experiential and material purchases. Study 4 built on the previous studies in two ways. First, like study 2, study 4 involved an incentive compatible design, but used a new behavioral measure for reliance on consumer reviews: it assessed whether participants changed their mind after reading a negative review about their initial choice. Second, in addition to using a pair of experiential and material purchases that were in the same hedonic consumption domain (ice cream), study 4 presented all participants with a virtually identical consumer review. Not only did this ensure a high degree of experimental control, but it allowed us to test whether people *perceive* assessments written in consumer reviews for experiential purchases as less reflective of the purchase's objective quality than those for material purchases and, consequently, rely less on reviews for experiential purchases.

Method

Participants. We recruited 238 participants from a university's subject pool that included students and community members (66% female, 3 unspecified; $M_{\text{age}} = 23.8$, 1 unspecified). Given that this research focuses on people who are in the process of choosing what to buy, like in study 2, we excluded 19 participants who had previously consumed the products from the analysis. In addition, one participant who reported not being able to view the stimuli in the online survey was excluded from the analysis. The final sample included 218 participants.

Purchase type manipulation. In this between-subjects study, participants were presented with either two options of nearby ice cream shops (experiential condition) or two options of ice cream makers that could be shipped to them for free (material condition) and asked to choose the option they would prefer. They were informed that one in every 100 participants would be randomly selected to receive their chosen option. All options were valued at \$50 (with the prize in the experiential condition being a \$50 gift certificate for the chosen ice cream shop). The two options within each pair were presented side-by-side, with the order randomized. See Appendix B for the stimuli.

A pretest ($N = 54$) that presented participants with the same stimuli confirmed that the pair of ice cream shops and the pair of ice cream makers were comparable in the extent to which participants preferred one option over the other. Specifically, 66.67% of participants in the experiential condition and 70.37% of participants in the material condition preferred the same option in the pair over the other ($\chi^2(1) = 0.09$, $p = .77$).

Reliance on consumer reviews. Participants were first asked to choose one of the two presented options, with the understanding that they had a chance of actually receiving their selected option. After participants made their initial selection, they saw a review ostensibly

written by another consumer about their selected option. All participants were presented with the same slightly negative review: “[When I visited this ice cream shop / When I used this ice cream maker], I was not very satisfied. I’m not sure I’d recommend it.” Participants were then offered an opportunity to change their mind and select the other option. The dependent measure was whether participants changed their mind and switched to the other option after reading a negative review about their initial choice.

Quality assessment beliefs. On the next page, participants were instructed to indicate the extent to which the review reflected the consumer’s assessment of the objective quality of the ice cream shop [ice cream maker] (1 = “not at all,” 9 = “a great deal”), adapted from Spiller and Belogolova (2017).

Manipulation check. Participants rated the extent to which a visit to an ice cream shop [an ice cream maker] is material or experiential (1 = “purely material,” 9 = “purely experiential”).

Other measures. Participants next rated how much they cared about their decision, how important the choice was to them, and how engaged they were in this decision (1 = “not at all,” 7 = “very much”). We averaged these three items to create a measure of *purchase importance* ($\alpha = .88$). Participants indicated how knowledgeable they were about ice cream shops [ice cream makers] (1 = “not at all knowledgeable,” 7 = “very knowledgeable”) and whether they had previously heard of or visited [used] either of the ice cream shops [ice cream makers]. In addition, they rated the extent to which a visit to an ice cream shop [an ice cream maker] was hedonic (1 = “purely utilitarian,” 9 = “purely hedonic”). See Web Appendix G for the complete measures.

Results

Manipulation check. Participants viewed a visit to an ice cream shop as more experiential ($M = 6.21$, $SD = 1.98$) than an ice cream maker ($M = 5.17$, $SD = 2.01$; $t(216) = 3.84$, $p = .0002$).

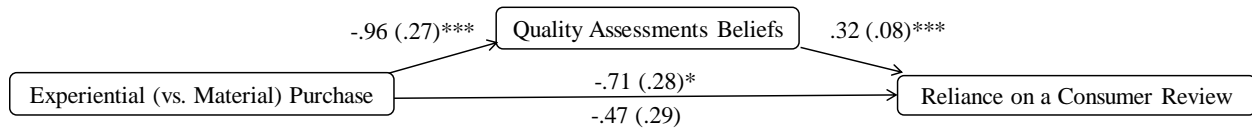
Reliance on consumer reviews. Participants in the experiential condition were less likely to change their mind (34.95%) after reading the negative review than those in the material condition (52.17%; $\chi^2(1) = 6.54$, $p = .01$). This suggests that participants relied less on the consumer review when deciding on an experiential purchase than when deciding on a material purchase.

Mediation by quality assessment beliefs. Participants viewed the consumer review to be less reflective of the consumer's assessment of the option's objective quality for the experiential purchase ($M = 4.08$, $SD = 2.11$) than for the material purchase ($M = 5.03$, $SD = 1.91$; $t(216) = 3.52$, $p = .0005$). Moreover, a 5,000-sample bootstrap analysis (model 4 in Hayes 2013) estimated an indirect effect of purchase type on reliance on reviews via quality assessment beliefs as -0.30 ($SE = 0.12$), and the 95% bias-corrected CI of the indirect effect did not include zero ($[-0.58, -0.12]$). These results suggest that quality assessment beliefs mediated the influence of purchase type on review reliance (figure 3).

Other measures. Purchase importance did not differ between conditions ($M_{experiential} = 3.56$, $SD = 1.31$ vs. $M_{material} = 3.43$, $SD = 1.40$; $t(216) = 0.74$, $p = .46$). We did find that compared to ice cream makers, participants were more knowledgeable about ice cream shops ($M_{experiential} = 2.87$, $SD = 1.67$ vs. $M_{material} = 1.83$, $SD = 1.24$; $t(216) = 5.30$, $p < .0001$) and rated a visit to an ice cream shop as more hedonic ($M_{experiential} = 7.54$, $SD = 1.45$ vs. $M_{material} = 6.65$, $SD = 1.77$; $t(216) = 4.03$, $p = .0001$). Notably, however, when we included these items in a multi-mediator model (model 4 in Hayes 2013) along with quality assessment beliefs, quality

assessment beliefs was the only significant mediator (indirect effect = -0.31, SE = 0.05, 95% CI = [-0.61, -0.11]).

Figure 3. The Effect of Experiential (vs. Material) Purchase Type on Review Reliance is Mediated by Quality Assessment Beliefs (Study 4)



Notes. Unstandardized regression coefficients are shown, and standard errors are presented in parentheses. The coefficient above the path from purchase type to reliance on consumer reviews represents the total effect without the mediator in the model; the coefficient below the path represents the direct effect when the mediator was included in the model. Coefficients significantly different from zero are indicated by asterisks (* $p < .05$, ** $p < .01$, *** $p < .001$). A logistic regression was used to predict reliance on consumer reviews (a binary variable).

Discussion

Employing a tightly controlled pair of experiential and material purchases, a new behavioral measure of review reliance, and a virtually identical consumer review across conditions, study 4 showed that people relied less on consumer reviews when making an experiential purchase than when making a material purchase. This effect was driven by people's view that consumer reviews of experiential purchases are less likely to reflect objective quality than consumer reviews of material purchases. Furthermore, study 4 showed that alternative explanations (knowledge, importance, and the hedonic nature of a purchase) were not responsible for the difference in review reliance between purchase types, thus highlighting the critical role of quality assessment beliefs. In the next study, we sought additional evidence through a test of moderation that quality assessment beliefs are responsible for the influence of purchase type on review reliance.

STUDY 5: TEST OF MECHANISM THROUGH MODERATION

The objective of study 5 was to provide further evidence for the underlying role of quality assessment beliefs by manipulating whether reviews explicitly contained quality-based

assessments. If people believe that assessments of experiential purchases are less based on objective quality and this drives people to rely less on consumer reviews for experiential purchases than material purchases, then the difference in review reliance between purchase types should decrease when a review for an experiential purchase explicitly contains an assessment based on objective quality. This study followed a 2 (purchase type: experiential vs. material) \times 2 (purchase assessment: control vs. quality) between-subjects design.

Method

Participants. A total of 808 participants (44% female, 3 unspecified; $M_{\text{age}} = 35.9$) recruited through MTurk completed this study in exchange for \$0.40. Like in studies 2 and 4, we excluded from the analysis 36 participants who had previously consumed the products. In addition, 15 participants who reported that they could not view the stimuli in the online study were excluded from the analysis. The final sample included 757 participants.

Purchase type manipulation. Participants were asked to imagine that they were planning to go to an ice cream shop (experiential condition) or buy an ice cream maker (material condition), and that they were deciding between two options of approximately the same price. Using the same stimuli as in study 4 (see Appendix B for stimuli), we presented participants with either two options of ice cream shops or two options of ice cream makers.

Quality assessment manipulation. Participants were first asked to choose one of the two presented options. After making their initial selection, participants saw a review ostensibly written by another consumer about their selected option. The structure of the review was the same across all conditions, but the review in the quality condition explicitly assessed the objective quality of the option (see Appendix B for stimuli).

Reliance on consumer reviews. After being presented with the slightly negative review, participants were asked whether they would change their mind and choose the other option (1 = “definitely stick to my original choice,” 7 = “definitely switch to the other ice cream shop [ice cream maker]”). The likelihood of being influenced by the review in their final decision served as the dependent measure of review reliance.

Manipulation checks. On the next page, participants were instructed to indicate the extent to which the review they just read reflected the consumer’s assessment of the objective quality of the ice cream shop [ice cream maker] (1 = “not at all,” 9 = “a great deal”), adapted from Spiller and Belogolova (2017). Participants also rated the extent to which a visit to an ice cream shop [an ice cream maker] is material or experiential (1 = “purely material,” 9 = “purely experiential”).

Other measures. We used the same scales and measures as in study 4 to assess purchase importance (three items; $\alpha = .90$), knowledge about ice cream shops [ice cream makers], familiarity with the brands used in the study, and the hedonic nature of the purchase. See Web Appendix H for the complete measures.

Results

Manipulation checks. A 2 (purchase type) \times 2 (purchase assessment) ANOVA on the quality assessment manipulation check revealed a main effect of the quality assessment manipulation ($M_{quality} = 6.93$, $SD = 1.67$ vs. $M_{control} = 5.50$, $SD = 2.18$; $F(1, 753) = 108.44$, $p < .0001$), a main effect of purchase type ($M_{experiential} = 5.74$, $SD = 2.18$ vs. $M_{material} = 6.67$, $SD = 1.85$; $F(1, 753) = 44.35$, $p < .0001$), and a significant interaction ($F(1, 753) = 14.34$, $p = .0002$). Consistent with our theory, participants in the control condition reported that the review of the experiential purchase was based less on quality ($M = 4.79$, $SD = 2.13$) than the review of the

material purchase ($M = 6.22$, $SD = 1.99$; $F(1, 753) = 55.36$, $p < .0001$); and this difference was attenuated in the quality condition ($M_{experiential} = 6.74$, $SD = 1.75$ vs. $M_{material} = 7.13$, $SD = 1.58$; $F(1, 753) = 4.07$, $p = .04$).

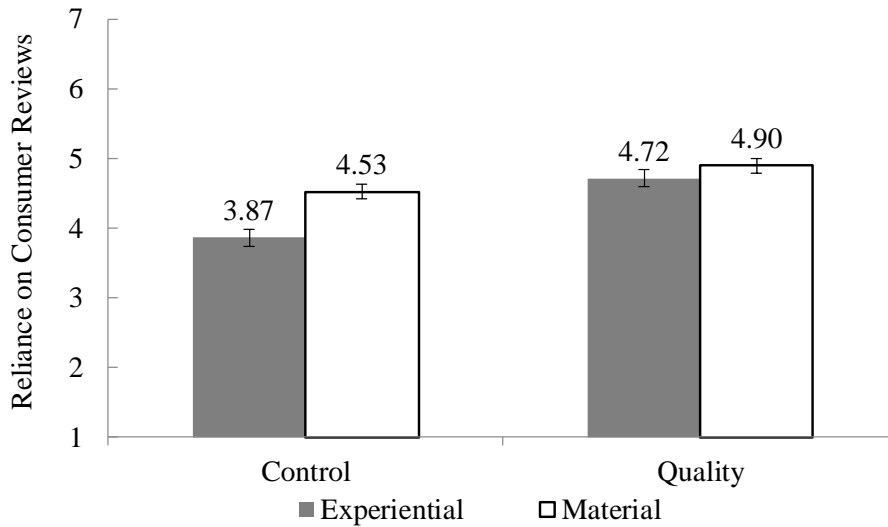
A two-way ANOVA on the experiential-material manipulation check showed only the expected main effect of purchase type ($M_{experiential} = 6.54$, $SD = 2.09$ vs. $M_{material} = 4.33$, $SD = 2.21$; $F(1, 753) = 200.95$, $p < .0001$). There was neither a significant main effect of the quality manipulation ($F(1, 753) = 3.22$, $p = .07$) nor an interaction ($F(1, 753) = 0.14$, $p = .70$).

Reliance on consumer reviews. A two-way ANOVA on review reliance revealed a main effect of purchase type ($M_{experiential} = 4.28$, $SD = 1.71$ vs. $M_{material} = 4.72$, $SD = 1.47$; $F(1, 753) = 13.72$, $p = .0002$), a main effect of quality assessment ($M_{quality} = 4.81$, $SD = 1.56$ vs. $M_{control} = 4.20$, $SD = 1.60$; $F(1, 753) = 28.88$, $p < .0001$), and the predicted interaction ($F(1, 753) = 4.31$, $p = .038$). Specifically, in the control condition, participants relied less on the presented consumer review when making an experiential purchase ($M = 3.87$, $SD = 1.66$) than when making a material purchase ($M = 4.53$, $SD = 1.47$; $F(1, 753) = 16.95$, $p < .0001$); however, when the review explicitly assessed the option's objective quality, the difference between purchase types was not statistically significant ($M_{experiential} = 4.72$, $SD = 1.65$ vs. $M_{material} = 4.90$, $SD = 1.46$; $F(1, 753) = 0.31$, $p = .25$; figure 4).

Other measures. Purchase type had a main effect on purchase importance ($M_{experiential} = 4.39$, $SD = 1.45$ vs. $M_{material} = 4.84$, $SD = 1.37$; $F(1, 753) = 19.01$, $p < .0001$), knowledge ($M_{experiential} = 3.86$, $SD = 1.56$ vs. $M_{material} = 2.75$, $SD = 1.64$; $F(1, 753) = 91.84$, $p < .0001$), and hedonic ratings ($M_{experiential} = 7.76$, $SD = 1.50$ vs. $M_{material} = 6.34$, $SD = 2.19$; $F(1, 753) = 107.36$, $p < .0001$), and the assessment manipulation influenced importance ($M_{quality} = 4.73$, $SD = 1.46$ vs. $M_{control} = 4.50$, $SD = 1.39$; $F(1, 753) = 4.49$, $p = .03$) but not knowledge or hedonic ratings (both

$ps > .27$). Importantly, there were no significant purchase type \times assessment interactions on any of these measures (all $ps > .14$). Furthermore, when we included these measures as covariates in a two-way ANCOVA model predicting review reliance, the main effect of purchase type ($F(1, 753) = 5.40, p = .02$), the main effect of quality assessment ($F(1, 753) = 25.44, p < .0001$), and their interaction ($F(1, 753) = 6.10, p = .01$) all remained statistically significant.

Figure 4. Shoppers' Reliance on Consumer Reviews as a Function of Purchase Type and Assessment of Quality (Study 5)



Discussion

As observed in our previous studies, study 5 showed that participants were less willing to rely on a consumer review when making an experiential purchase than making a material purchase. However, when the review explicitly contained an assessment of the option's objective quality, people making an experiential purchase decision were as likely to rely on the review as those deciding on a material purchase. These findings provide further evidence for our hypothesis that beliefs about the extent to which consumer reviews contain assessments of

objective quality are responsible for the lower reliance on consumer reviews observed for experiential purchases (relative to material purchases).

GENERAL DISCUSSION

Online consumer reviews have become a pervasive form of social influence (Chen and Xie 2008). The present research examines whether and why the type of purchase—experiential or material—affects the extent to which people rely on this prevalent source of information in their decision making.

Across one archival study, four experiments, and two additional replications reported in the Web Appendix, this research shows that people rely less on consumer reviews for experiential purchases than for material purchases. This effect was robust across millions of actual shoppers on Amazon (study 1), people reading real consumer reviews they found online for a purchase they intended to make (study 3), and people making a consequential choice between two purchase options (studies 2 and 4). This effect was replicated using multiple measures of review reliance—including shoppers rating the helpfulness of consumer reviews (studies 1 and 3), people selecting the option with a more favorable review (study 2), and people changing their purchase decision after reading a slightly negative review (studies 4 and 5).

This research also offers insight into the effect's underlying mechanism, revealing the role of people's beliefs about the extent to which consumers' purchase assessments are based on objective quality. Specifically, people believe assessments of experiential purchases are less based on objective quality than assessments of material purchases, and this belief undermines people's willingness to rely on other consumers' reviews for their experiential purchase decisions. Studies 3 and 4 provided evidence for this mechanism through mediation analyses,

and study 5 provided evidence through moderation by manipulating whether a consumer review explicitly reflected the objective quality of the option under consideration.

Our set of studies ruled out alternative explanations through both stimuli selection and design, as well as measurement. For instance, for study 2, we employed pretests to select a pair of purchases that only differed in their experiential versus material nature, yet were comparable on dimensions such as purchase importance, purchase knowledge, and product desirability. To show the effect is not limited to specific purchase pairs, we instructed participants in study 3 to think about an experiential or material purchase they intended to make; but to control comparability along other potentially confounding dimensions, we specifically instructed them to think of a hedonic purchase that would have consumer reviews available. In studies 1, 3, 4, and 5, we directly measured purchase importance and knowledge, as well as the hedonic (vs. utilitarian) nature of the purchases. We showed that the effect of the experiential (vs. material) nature of the purchase remains robust when controlling for these measures.

Theoretical and Practical Implications

This research makes important contributions to the literature comparing experiential and material purchases. Whereas the bulk of that literature has compared the downstream consequences of making experiential versus material purchases (Gilovich et al. 2015a), the current findings add to emerging work that tests pre-purchase differences. While this emerging work has identified when and why people might decide to make one type of purchase over the other (Kumar et al. 2014; Pchelin and Howell 2014; Kumar and Gilovich 2015, 2016; Tully et al. 2015; Goodman et al. 2016; Goodman and Lim forthcoming), our research further contributes by documenting a difference in how people decide which option to buy within each purchase type. Furthermore, by identifying the underlying role of people's beliefs about assessments as based

on objective quality, our research adds this variable to the list of perceived differences—such as comparability, interchangeability, personal relevance, emotional intensity (Carter and Gilovich 2010, 2012; Chan and Mogilner 2017; Rosenzweig and Gilovich 2012)—that psychologically distinguishes experiential and material purchases.

This research also provides insights into factors that influence people's willingness to rely on consumer reviews (Naylor, Lamberton, and Norton 2011; Chen and Lurie 2013; Moore 2015; de Langhe et al. 2016; Yin et al. 2014, 2017). By highlighting the critical role played by quality assessment beliefs, our findings indicate that people's perceptions of the objective (vs. subjective) nature of a topic can influence people's willingness to interact with and relate to anonymous others—an increasingly pervasive online behavior.

Relatedly, these findings identify the experiential versus material nature of a purchase as a distinct and novel delineation across product domains that determines reliance on consumer reviews. First, this categorization is distinct from a product's hedonic versus utilitarian nature, which has been shown to influence review helpfulness (Sen and Lerman 2007; Chu et al. 2015; Moore 2015). Importantly, the experiential-material effect persisted when we controlled for the purchase's hedonic (vs. utilitarian) nature through study design (study 3) and measurement (studies 1, 4, and 5). Furthermore, even when the experiential purchase (a cooking class) was viewed as *less* hedonic than the material purchase (an espresso machine), people still relied on consumer reviews less for the experiential purchase than for the material purchase (study 2). Second, the experiential versus material distinction is separate from the distinction between search goods and experience goods, which has also been shown to influence the impact of consumer reviews (Park and Lee 2009; Mudambi and Schuff 2010). The search (vs. experience) goods categorization reflects how easily consumers can evaluate a product prior to consumption:

search goods can be easily evaluated before being consumed (e.g., home furniture), whereas experience goods have attributes that cannot be easily evaluated until the product is consumed (e.g., automotive parts; Nelson 1970; Huang, Lurie, and Mitra 2009). This categorization is orthogonal to the experiential (vs. material) distinction, which centers on consumers' primary purpose for making a purchase (i.e., gaining experiences versus acquiring possessions; Van Boven and Gilovich 2003). Not to mention, the difference of product evaluability between search and experience goods is blurred in online environments (Huang et al. 2009), which is the context of our inquiry. Additionally, in the two replication experiments reported in the Web Appendix, we presented all participants with the very same purchase and merely led participants to focus on the purchase's experiential (vs. material) aspects. Our observation that people relied less on reviews when the purchase was viewed as more experiential could not be explained by the search (vs. experience) good distinction. Altogether, the current research suggests a new way of slicing the consumer product landscape to identify what types of products are more likely to benefit from word-of-mouth.

Furthermore, this research contributes to new research on quality assessment beliefs (Spiller and Belogolova 2017). Our findings show that in addition to differences across individuals, beliefs about quality assessments also systematically differ across product domains, and they affect people's susceptibility to social influence. The results of our investigation may also provide new insight into the construct. In Spiller and Belogolova (2017), participants could justify their choice of option by reporting that a) the chosen option was objectively better than the forgone option, b) their choice was a matter of taste, or c) they did not have enough knowledge to judge. The format of this question implies that if people believe a purchase is primarily assessed based on objective quality, it is not based on taste. Interestingly, however,

when we asked participants in the pilot study and study 3 to separately rate the extent to which they believed assessments of a purchase are a matter of objective quality and the extent to which they believed assessments of a purchase are a matter of taste, we did not observe a significant negative correlation between these items. Furthermore, though participants believed that assessments of experiential purchases were more based on taste than material purchases, beliefs about taste assessments did not significantly predict review reliance (see Web Appendixes A and F). We speculate this is because people tend to assume that other consumers share their tastes (Naylor et al. 2011) and thus may not discount consumer reviews even when they contain taste-based assessments. Future research should more systematically examine the relationship between taste and quality assessment beliefs and compare their roles in social influence.

The current research offers a number of practical implications for firms and review websites. For instance, our results suggest that firms should take their product type (experiential vs. material) into account when designing their optimal communication strategy. In an additional experiment ($N = 243$ MTurk participants), we found that whereas people relied less on consumer reviews for an experiential purchase (a Broadway show ticket) than a material purchase (a pair of speakers), there was no significant difference in how useful people considered company-provided information (Web Appendix I). Noting that people do not discount *all* information more for experiential purchases, firms could leverage these insights to emphasize whichever would be the more persuasive source of information for their products. Further, retailers may be able to dampen the impact of a negative consumer review by highlighting the experiential aspects of their product. In addition, this research advises review websites (particularly those featuring experiential purchases) to address users' doubts about another consumer's evaluation as bearing on their own by helping users identify reviews that provide quality-based judgments.

Future Directions

These findings may lead readers to wonder about the popularity of websites that feature consumer reviews for experiential purchases. Indeed, websites such as Yelp, TripAdvisor, and Citysearch have no shortage of engaged and active users. Importantly, the current findings do not suggest that people do not visit review websites or read reviews for experiential purchases. Rather, this investigation observed the extent to which people find the reviews they read useful and are influenced by them. More precisely, this research compares the extent to which people rely on consumer reviews for experiential purchases *relative to* material purchases during their decision process. Future research should investigate what factors motivate people to search for reviews and actively seek out others' advice, and test whether these too vary by purchase type.

Moreover, there are other factors—such as consumers' motivations to write reviews—that might also contribute to the popularity of review websites featuring experiential purchases. Self-enhancement and the desire to converse are two important drivers of individuals' motivation to spread word-of-mouth (Lovett, Peres, and Shachar 2013). Since people are judged more positively when talking about their experiential purchases than their material purchases (Van Boven, Campbell, and Gilovich 2010) and derive greater enjoyment from doing so (Kumar and Gilovich 2015), people may be more motivated to write and post a review about their recently acquired experience than about their newly acquired possession. Future research should systematically explore the extent to which activity on review websites is driven by the motivations of the consumers writing the reviews.

At first glance, the findings documented in this research seem to counter those showing that conversation partners enjoy hearing more about each other's recent experiential purchase than each other's recent material purchase (Van Boven et al. 2010). Importantly, however,

people likely have different motives when reading a review from an anonymous consumer to inform a purchase decision than when meeting someone in person and hearing his or her story about a recent purchase. Whereas people read consumer reviews with the primary intention to use those reviews to predict their own evaluations of a product and to facilitate their decision processes, people engage in conversation with the primary intention to connect with others. Thus, the reasons people more easily connect with others who tell stories about their experiential purchases (Van Boven et al. 2010)—experiential purchases evoke stronger emotions (Chan and Mogilner 2017), are less stigmatized as materialistic (Van Boven et al. 2010), are more revealing of the story teller’s sense of self (Carter and Gilovich 2010), and have a narrative structure that makes for a better story (Van Boven 2005)—are not factors that would obviously determine the usefulness of consumer reviews. Still, future research could examine how shoppers’ social motives might influence their reliance on others’ opinions, including those of anonymous online reviewers, in-store sales representatives, and friends who relay their advice through written emails, text, or in-person conversation.

Study 4 showed that even when the review content was exactly the same, people perceived the review to be less reflective of the option’s objective quality when the purchase was experiential (vs. material). This suggests that it may not just be the content of the reviews, but rather shoppers’ *beliefs* about the basis of other consumers’ assessments that underlie the observed effect on review reliance. This poses the interesting question of whether it is appropriate for people to discount the value of consumer reviews for experiential purchases (relative to material purchases). Notably, people’s lay beliefs about the alignment between their own preferences and those of a stranger are not always accurate (Naylor et al. 2011; Barasz, Kim, and John 2016), and people underestimate the value of knowing others’ reactions to an

event in predicting their own reactions to that event (Gilbert et al. 2009; Eggleston et al. 2015; Müller-Trede et al. 2017). So, do people underestimate the value of consumer reviews for experiential purchases? An exploratory study that we conducted suggests so (Web Appendix J). In the study, half of the participants simply read a product review written by another participant who had tried the product (a bag of chips in the experiential condition or a flashlight in the material condition). These participants considered the review of the experiential purchase to be less useful than the review of the material purchase (as found in studies 1-5). The other half of participants actually tried the product prior to evaluating it and reading a review about it; the discrepancy in product evaluations between these participants and their corresponding review writers did not significantly differ between the experiential and material conditions. This observation provides preliminary evidence to suggest that people underestimate how much consumer reviews can predict their enjoyment of experiential purchases (relative to material purchases). It would be interesting for future research to identify whether people's reluctance to rely on reviews for experiential purchases (relative to material goods) might lead to inferior purchase decisions (Fitzsimons and Lehmann 2004).

Finally, future research might explore how characteristics of reviews and product type jointly influence review helpfulness. For instance, we conducted a post-hoc analysis to examine the role of review valence. Specifically, in our analysis of Amazon reviews (study 1), we added an interaction between star rating (mean-centered) and experiential rating (mean-centered) to the OLS regression predicting the proportion of helpful votes (see Web Appendix B for details). The interaction between star rating and experiential rating was positive and significant ($p < .001$), suggesting that the differences in review helpfulness between experiential and material purchases may be smaller for positive reviews than for negative reviews. We note, however, that the

negative relationship between experiential ratings and review helpfulness remained statistically significant at each star rating level (all $ps < .001$), which suggests that the negative effect of experiential (vs. material) purchase type on review helpfulness holds for both positive and negative reviews. Future research that systematically investigates the interaction between review characteristics and purchase type would not only be theoretically interesting, but also practically meaningful to marketers who worry about the impact of negative reviews.

Conclusions

These findings show that people believe assessments of experiential purchases to be less a matter of objective quality than assessments of material purchases. Thus, people rely less on consumer reviews when deciding among experiences than when deciding among material goods. This insight highlights that experiential and material purchases do not only differ in their likelihood of being consumed or in their enjoyment once consumed—they also differ in the decision processes through which people choose which option to buy. So, even though people are open to being told what to *have*, they prove more reluctant to being told what to *do*.

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APPENDIX A: STUDY STIMULI (STUDY 2)

Below are the pictures, product descriptions, and consumer reviews used in study 2. We randomized which side (left or right) each option appeared, as well as which of the options received a positive review. One display order is shown here as an example.

EXPERIENTIAL CONDITION

<p>Option A: Tapiscos by the Culinarium Cupboard Cooking School</p>  <p>Class Description: You will learn how to make different styles of Tapas and their cousin Tapiscos. We will share with you the essentials for creating the perfect Tapiscos experience for your guests for any style of entertaining.</p> <ul style="list-style-type: none">• Rolled eggplant• Stuffed olives• Fish croquettes• Turkey koftas• Galician style seafood	<p>Option B: Spanish Tapas by the Chef Upstairs</p>  <p>Class Description: This class is inspired by a Spanish restaurant named La Boca. We want to share their delightful Tapas menu and introduce you to this simple and tasty cuisine.</p> <ul style="list-style-type: none">• Tomatoes on crusty bread• Deep fried caper berries• Grilled fish...Spanish style• Classic Spanish meatballs• Spanish rice with seafood
<p>Randomly selected consumer review:</p> <p>★★★★★ 6/1/2015</p> <p>This is the best cooking class I have taken. I am quite experienced with Spanish food and I was very satisfied with this class. I can't get over how quickly the time flew by. The chef was efficient, and his demonstrations were clearer than many I have seen.</p> <p>Very neat experience, and definitely one I would do again. It was really fun. I can now make fish croquettes and stuffed olives at home. I would never have thought I could do it so easily!</p>	<p>Randomly selected consumer review:</p> <p>★★★☆☆ 5/30/2015</p> <p>My first time attending this class was a little odd. I walked in, and there were no signs directing me to where I was supposed to go. I ended up having to call the school to find out where the class was.</p> <p>Once the class started, it was fine. But the pace was slow, which was not good for knowledgeable cooks like me. If the pace sped up, the class would be better, and the chef definitely has a passion for Spanish food.</p>





MATERIAL CONDITION

<p style="text-align: center;">Option A: Steam Espresso Machine by Krups</p>  <p>Product Description: This espresso machine is ideal for preparing espresso drinks and keeping beverages warm while frothing milk.</p> <ul style="list-style-type: none"> • Steam nozzle that quickly froths milk • A control dial and pressure safety valve • A 16 oz. glass carafe • Power indicator light • Metal cup warming tray on top with removable metal drip tray 	<p style="text-align: center;">Option B: Espresso Machine by Oster</p>  <p>Product Description: This espresso machine is like having a personal barista. You can make espresso drinks without leaving home.</p> <ul style="list-style-type: none"> • Milk frother & steam control • Thermoblock heating element that adjusts temperature and pressure • 15 bars of pressure for the perfect cup • Thermostat indicator light • Cup warming plate with removable drip tray
<p>Randomly selected consumer review:</p> <p>★★★★★ 6/1/2015</p> <p>This is the best espresso machine I have owned. I am quite experienced with small home models and I am very satisfied with this machine. I can't get over how quickly the machine works. It is quieter, and its instructions were clearer than many machines I have had.</p> <p>Very neat product, and definitely one I would buy again. It is really functional. I can now make rich cappuccinos and lattes at home. I would never have thought I could do it so easily!</p>	<p>Randomly selected consumer review:</p> <p>★★★★☆ 5/30/2015</p> <p>My first time using this machine was a little odd. I switched on the machine, and there was a leak that caused a mess. I ended up having to call the company to find out how to attach the tray.</p> <p>Once the machine started, it was fine. But the thermostat indicator light was dim, which was not good for judging whether the water was heating. If the light was brighter, the machine would be better, and the machine definitely makes a quality espresso.</p>

APPENDIX B: STUDY STIMULI (STUDIES 4 AND 5)

Below are the pictures and consumer reviews used in studies 4 and 5. We randomized which side (left or right) each option appeared. One display order is shown here as an example.

EXPERIENTIAL CONDITION

Option A: Smitten Ice Cream	Option B: Rori's Artisanal Creamery
	
	

Consumer Review in study 4:

When I visited this ice cream shop, I was not very satisfied. I'm not sure I'd recommend it.

Consumer Review in study 5:

Control Condition



When I visited this ice cream shop, I was not very satisfied. I'm not sure I'd recommend it. The directions to the shop were not very clear, and it took forever to find it. The variety of flavor options wasn't as good as I had expected.

Quality Condition



When I visited this ice cream shop, I was not very satisfied with the quality. I'm not sure I'd recommend it. The shop was not very well run, and it took forever to get ice cream. The quality of the ingredients wasn't as good as others I have tried.

MATERIAL CONDITION

Option A: PowerDoF Ice Cream Maker	Option B: EECOO Ice Cream Maker
	
	

Consumer Review in study 4:

When I used this ice cream maker, I was not very satisfied. I'm not sure I'd recommend it.

Consumer Review in study 5:

Control Condition



When I used this ice cream maker, I was not very satisfied. I'm not sure I'd recommend it. The directions for the machine were not very clear, and it took forever to set up. The variety of setting options wasn't as good as I had expected.

Quality Condition



When I used this ice cream maker, I was not very satisfied with the quality. I'm not sure I'd recommend it. The machine did not run very well, and it took forever to get ice cream. The quality of the machine parts wasn't as good as others I have tried.

People Rely Less on Consumer Reviews for Experiential Purchases than for Material Purchases

Web Appendices

WEB APPENDIX A: PILOT STUDY

Survey Instructions

In this survey, you will be presented with 10 products and services that people often purchase. For each product/service, you will be asked the three questions listed on this page. Please read these questions and our instructions carefully, before you proceed to the next page.

Q1. To what extent do you think this purchase is a material or experiential purchase?

A material purchase provides something that a person can keep in his/her possession, and an experiential purchase provides something that a person can do.

Q2. To what extent do you think people's assessments of options for this purchase are a matter of quality?

By a matter of quality, we mean that if a person thinks one option is superior to another option, that one option is objectively better than the other.

Q3. To what extent do you think people's assessments of options for this purchase are a matter of taste?

By a matter of taste, we mean that if a person thinks one option is superior to another option, it is *not* that one option is objectively better than the other; instead, one option matches that person's personal preferences better than the other.

Complete Measures

Product/Service: {Insert one purchase randomly selected from the list of purchases}

Q1. To what extent do you think this purchase is a material or experiential purchase?

1 = Primarily material; 5 = Equally material and experiential; 9 = Primarily experiential

Q2. To what extent do you think people's assessments of options for this purchase are a matter of quality?

1 = Definitely not a matter of quality; 9 = Primarily a matter of quality

Q3. To what extent do you think people's assessments of options for this purchase are a matter of taste?

1 = Definitely not a matter of taste; 9 = Primarily a matter of taste

List of Purchases

We first identified all purchases examined by papers that (a) compared experiential and material purchases and (b) were published in a major marketing or psychology journal prior to December 2017 (see the list of papers at the end of this appendix). Then, we consolidated the list of purchases in the following manner. (1) We removed brand names (e.g., "a North Face ski jacket" became "a ski jacket"). (2) We merged similar purchases (e.g., "dinner at a Michelin star restaurant," "dinner at an Italian restaurant," and "meal at a nice restaurant" became "a meal at an upscale restaurant"). (3) We excluded purchases used in studies that instructed participants to focus on either the material or experiential aspects of the same purchase (e.g., a coffee mug, a TV, a boxed set of one's favorite band). The final list

consisted of 87 purchases (38 experiential and 49 material purchases). Each pretest participant rated a random subset of 10 purchases.

Experiential	Material
a beach vacation package	an electronic gadget
a vacation in a city	a digital camera
a cruise package	a designer handbag
a pass to go skiing	a shirt
a ski vacation	a ski jacket
a stay at a romantic bed and breakfast	a couch
a plane ticket	a dresser
a Broadway show ticket	a watch
a comedy show ticket	a pair of leather boots
a concert ticket	a stereo system
a pass to a music festival	an iPod Shuffle
a ticket to a sporting event	a jacket
a ticket to an arts performance (e.g., theater, dance, opera)	a coffee machine
museum membership	Kindle Touch
a dinner cruise	Google Glass
a pass to a zoo	sports equipment (e.g., a new golf club or ice skates)
fees for an outdoor activity (hiking, rafting, skydiving)	a heated toilet seat
access to a sports facility (e.g., a driving range, an ice rink)	a movie DVD
a wine tasting event	home gym equipment
a massage session	a musical instrument
a movie theater ticket	painting supplies
gym membership	a leather jacket
lessons on a musical instrument	a rain poncho
painting classes	a flowering houseplant
a meal at an upscale restaurant	a CD (compact disk)
a meal at a café	a scarf
a drink at Starbucks	a diamond necklace
gourmet nuts	a winter coat
going to a pool hall	a pair of jeans
hour of bowling	a laptop
one game of skee ball	a leather-bound notebook
a video	winter insulated gloves
a song	a shower radio
a bag of chips	a revolving tie rack
a chocolate bar	a lighted vanity mirror
canned meat	a heating pad
a can of sardines	a set of pencils

clam juice	a drink can holder
	a keychain
	a ruler
	a deck of cards
	a screwdriver
	a picture frame
	glow sticks
	yo-yo
	a pen
	a flash drive
	rubber bands
	an eraser

Results

We calculated the average material-experiential rating, the average rating of quality assessment beliefs, and the average rating of taste assessment beliefs for each purchase. We first confirmed that purchases categorized as experiential by past research were rated as more experiential ($M = 7.31$, $SD = 1.28$) than purchases categorized as material ($M = 3.25$, $SD = 1.06$), $t(85) = 16.22$, $p < .0001$.

Then, we examined the relationship between material-experiential and quality-assessment-beliefs ratings. We found that the extent to which a purchase was viewed as experiential (vs. material) was significantly and negatively correlated with beliefs about its assessment as based on quality ($r = -0.26$, $p = .01$). That is, people viewed assessments of experiential purchases as based less on objective quality than material purchases. Moreover, when we grouped the purchases according to their categorization in the prior papers (38 experiential purchases and 49 material purchases), the results confirmed that people believed assessments of experiential purchases to be based less on objective quality ($M = 5.75$, $SD = 0.93$) than assessments of material purchases ($M = 6.28$, $SD = 0.97$), $t(85) = 2.54$, $p = .01$.

Also, we explored the relationship between material-experiential and taste-assessment-beliefs ratings. We found that the extent to which a purchase was viewed as experiential (vs. material) was significantly and positively correlated with beliefs about its assessment as based on taste ($r = 0.46$, $p < .0001$). That is, people viewed assessments of experiential purchases as based more on taste than material purchases. Purchases that were categorized as experiential purchases by past research were rated higher on taste assessment beliefs ($M = 6.96$, $SD = 0.82$) than purchases that were categorized as material purchases by past research ($M = 5.67$, $SD = 1.33$), $t(85) = 5.23$, $p < .0001$.

Furthermore, ratings of taste assessment beliefs and quality assessment beliefs were not significantly correlated ($r = 0.17$, $p = .11$).

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WEB APPENDIX B: DATA, SURVEY, AND ROBUSTNESS CHECKS (STUDY 1)

Survey Used to Collect Ratings about Major Product Categories on Amazon.com

Imagine that you are shopping on Amazon.com. Think about the following product categories that are available on Amazon.com.

To what extent do you think products in each of the following categories are material or experiential?

Material purchases provide something that a person can keep in his/her possession, and experiential purchases provide something that a person can do.

{Here, 26 product categories were presented in a randomized order}

Now think again about the following product categories that are available on Amazon.com.

How much would you care about your purchase decisions if you are shopping for products in each of the following categories?

{Here, 26 product categories were presented in a randomized order}

Now think again about the following product categories that are available on Amazon.com.

To what extent do you think products in each of the following categories are utilitarian or hedonic?

Utilitarian products are desired to fulfill a basic need or to accomplish a functional or practical task, and hedonic products are desired for pleasure, fantasy, and fun.

{Here, 26 product categories were presented in a randomized order}

What is your age (in years)?

What is your gender?

- Female
- Male
- Would rather not say

Please provide any comments you have about this survey. (optional)

Data Source and Description

Our source of data (McAuley and Leskovec 2013) consists of all available consumer reviews (approximately 35 million) for nearly 2.5 million products that had at least one consumer review on Amazon between June 19, 1995 and March 4, 2013. Our data was divided into 26 product categories based on the top-level category of each product specified by Amazon (e.g., music, shoes). Because some of the 26 product categories did not have consumer reviews written until the early 2000s (e.g., arts, baby products, and jewelry) and the number of reviews generated per year increased dramatically in the first few years after reviews became available for a category, we extracted data from only consumer reviews posted in the last five complete calendar years of the original dataset (i.e., from January 31, 2008 to December 31, 2012). As explained in the paper, we assessed the extent to which a product was experiential or material based on its product category; therefore, we omitted reviews for products that were classified into more than one product category in the dataset. Our final dataset was comprised of 6,508,574 reviews that were written about 997,845 products on Amazon between January 31, 2008 and December 31, 2012 and received at least one helpful or unhelpful vote.

Robustness Checks

We conducted the following robustness checks involving alternative sample selection criteria and regression specifications; the results supported our hypothesis and were consistent with Models 1 and 2 in Table 2 in the paper.

1. We clustered standard errors at the product category level (Models 1-2 in Table B1).
2. We estimated robust standard errors without clustering standard errors (Models 3-4 in Table B1).
3. We omitted the 31 reviews for which helpful votes were greater than total votes (Models 5-6 in Table B1).
4. We used Tobit regression models (Models 7-8 in Table B1)
5. We modeled the number of helpful votes (instead of the proportion of helpful votes) as the dependent variable with total votes as a covariate using the following specifications.
 - a. Standard negative binomial regressions

Because most reviews in our sample received few helpful votes and a small number of reviews received thousands of helpful votes, our alternative dependent measure, *helpful votes* (mean = 3.05, variance = 538.28) exhibits over-dispersion (over-dispersion parameter = 1.35, $p < 0.0001$ for the log likelihood ratio test of the null hypothesis that the over-dispersion parameter equals zero). We therefore ran standard negative binomial regression models. To reduce computational complexity, we excluded consumer reviews whose total votes were more than three standard deviations above the mean (i.e., more than 80 votes), which accounted for 0.3% of all reviews in our final dataset.⁵ We report the results in Models 1 and 2 of Table B2.

⁵ When all reviews in our final dataset were included, the negative binomial regression models were unable to converge. A careful examination suggested that the rare large values of *helpful votes* (maximum = 32,208, mean = 3.05) and *total votes* (maximum = 32,506, mean = 4.75) were responsible. For zero-inflated negative binomial regression models, large values of *review length* (maximum = 6,124, mean = 141) also caused our models to fail to converge.

b. Zero-inflated negative binomial regressions

We also ran zero-inflated negative binomial regression models because the standard negative binomial model may be inappropriate for our data set, which contained a high proportion of consumer reviews with zero helpful votes (approximately 17%). We used a logit model in the inflation part to characterize the excess zeros, and we included the same predictor variables as in the main model (i.e., experiential rating, hedonic rating, care rating, review length, title length, star rating, review age, and review availability). To reduce computational complexity, we excluded consumer reviews whose total votes were more than three standard deviations above the mean (i.e., more than 80 votes) or whose word count was more than three standard deviations above the mean (i.e., more than 705 words), accounting for approximately 2% of all reviews.¹ We report the regression results in Models 3 and 4 of Table B2. Vuong tests show that the zero-inflated negative binomial Models 3 and 4 are better fits of our data than the standard negative binomial Models 1 and 2, respectively.

c. Tobit models

We used Tobit models to predict helpful votes, and we set the left limit of the dependent measure as zero. All reviews were included in these regression models. Results are presented in Models 5 and 6 in Table B2.

d. Ordinary Least Squares (OLS) regressions

The first set of OLS regressions used helpful votes as the dependent variable (Models 7 and 8 in Table B2). The second set of OLS regressions (Models 9 and 10 in Table B2) used log-transformed helpful votes as the dependent variable to account for the fact that (a) helpful votes are always non-negative and (b) most reviews have zero or only a few helpful votes while a small number of reviews have more than 10,000 helpful votes. Before performing the logarithmic transformation, we added a small positive number (0.001) to helpful votes to deal with reviews that had received zero helpful votes. We conducted the same logarithmic transformation to total votes, our critical control variable. All consumer reviews in our final dataset were included in these regressions. In summary, across a range of model specifications and robustness checks, we observed that shoppers assigned fewer helpful votes to consumer reviews for experiential purchases than for material purchases.

Finally, we added an interaction term between (mean centered) experiential rating and (mean centered) star rating to Models 1 and 2 of Table 2 to explore the moderating effect of review valence on our observed relationship between experiential (vs. material) purchases and review helpfulness (Models 1 and 2 in Table B3). We report the results in the General Discussion of our paper.

TABLE B1. ROBUSTNESS CHECKS FOR OUR MAIN ANALYSIS

Dependent Variable	Proportion of Helpful Votes (0%-100%)							
<i>Variables</i>	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Experiential Rating	-0.0480*** (0.0081)	-0.0368* (0.0179)	-0.0480*** (0.0001)	-0.0368*** (0.0003)	-0.0480*** (0.0004)	-0.0368*** (0.0009)	-0.1534*** (0.0013)	-0.1154*** (0.0030)
Hedonic Rating		-0.0131 (0.0143)		-0.0131*** (0.0002)		-0.0131*** (0.0007)		-0.0357*** (0.0024)
Caring Rating		-0.0488 (0.0375)		-0.0488*** (0.0005)		-0.0488*** (0.0014)		-0.1659*** (0.0043)
Review Length		0.0003*** (1.79e-05)		0.0003*** (8.00e-07)		0.0003*** (2.06e-06)		0.0007*** (7.14e-06)
Title Length		0.0073*** (0.0009)		0.0073*** (0.0001)		0.0073*** (0.0001)		0.0197*** (0.0002)
Star Rating		0.0756*** (0.0051)		0.0756*** (0.0001)		0.0756*** (0.0008)		0.2137*** (0.0022)
Review Age		1.40e-05* (6.08e-06)		1.40e-05*** (2.68e-07)		1.40e-05*** (1.28e-06)		-5.98e-06 (3.72e-06)
Review Availability		-5.63e-05*** (9.78e-06)		-5.63e-05*** (3.84e-07)		-5.63e-05*** (1.29e-05)		-0.0002*** (3.45e-05)
Observations	6,508,574	6,508,574	6,508,574	6,508,574	6,508,543	6,508,543	6,508,574	6,508,574
Pseudo R-squared (R^2 for OLS regressions)	0.03	0.13	0.03	0.13	0.03	0.13	0.01	0.06
Difference from the Models 1-2 in Table 2 of the paper	Standard errors were clustered at the product category level.		Standard errors were not clustered.		Reviews whose helpful votes were greater than total votes were dropped.		Tobit regression	

*, **, ***, indicate significance at the 5%, 1%, and 0.1% level, respectively.

TABLE B2. ROBUSTNESS CHECKS FOR OUR MAIN ANALYSIS

Dependent Variable	Helpful Votes								Log(Helpful Votes)	
Regression Specifications	Negative Binomial Models		Zero-inflated Negative Binomial Models		Tobit Models		OLS Models		OLS Models	
<i>Variables</i>	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
Experiential Rating	-0.0654*** (0.0009)	-0.0294*** (0.0024)	-0.0603*** (0.0010)	-0.0289*** (0.0025)	-0.4936*** (0.0146)	-0.4037*** (0.0187)	-0.3552*** (0.0107)	-0.3236*** (0.0157)	-0.2387*** (0.0023)	-0.1831*** (0.0048)
Total Votes	0.1019*** (0.0004)	0.0986*** (0.0004)	0.1012*** (0.0004)	0.0983*** (0.0004)	0.9029*** (0.0255)	0.9086*** (0.0242)	0.8992*** (0.0266)	0.9051*** (0.0252)		
Hedonic Rating		-0.0401*** (0.0018)		-0.0386*** (0.0018)		-0.1134*** (0.0081)		-0.0504*** (0.0083)		-0.0757*** (0.0039)
Caring Rating		-0.0739*** (0.0037)		-0.0704*** (0.0036)		-0.3986*** (0.0155)		-0.2406*** (0.0144)		-0.2678*** (0.0076)
Review Length		0.0006*** (4.80e-06)		0.0012*** (9.44e-06)		0.0017*** (0.0001)		0.0004* (0.0002)		0.0019*** (1.20e-05)
Title Length		0.0169*** (0.0001)		0.0104*** (0.0002)		0.0602*** (0.0013)		0.0243*** (0.0020)		0.0508*** (0.0004)
Star Rating		0.0599*** (0.0022)		0.0539*** (0.0023)		1.1944*** (0.0459)		1.0476*** (0.0412)		0.3676*** (0.0038)
Review Age		0.0002*** (3.56e-06)		0.0002*** (3.67e-06)		-6.32e-05 (4.46e-05)		-0.0004*** (0.0001)		0.0002*** (6.96e-06)
Review Availability		-5.92e-05 (4.03e-05)		-6.21e-05 (4.21e-05)		-0.0010*** (0.0002)		-0.0008*** (0.0001)		-0.0002*** (0.0001)
Log (Total Votes)									1.2672*** (0.0027)	1.3662*** (0.0029)
Inflation Part of the Zero-inflated Negative Binomial Models ¹										
Experiential Rating			0.2339*** (0.0082)	0.3301*** (0.0083)						
Hedonic Rating			0.1500*** (0.0066)	0.0940*** (0.0069)						
Caring Rating			0.3986*** (0.0136)	0.3250*** (0.0159)						
Review Length			-0.0712*** (0.0008)	-0.0943*** (0.0015)						
Title Length			-0.0745*** (0.0031)	-0.0512*** (0.0048)						
Star Rating			-0.4406*** (0.0059)	-0.3868*** (0.0066)						
Review Age			-0.0007*** (1.95e-05)	-2.12e-05 (1.94e-05)						
Review Availability			-0.0005*** (0.0001)	-0.0005*** (5.29e-05)						
Observations	6,487,944	6,487,944	6,296,216	6,296,216	6,508,574	6,508,574	6,508,574	6,508,574	6,508,574	6,508,574
Pseudo R-squared (R ² for OLS regressions)	0.16	0.18	N/A	N/A	0.31	0.32	0.95	0.95	0.17	0.22
Sample	Reviews whose total votes are less than three standard deviations above the mean		Reviews whose total votes and review length are less than three standard deviations above the mean		All consumer reviews		All consumer reviews		All consumer reviews	

*, **, and *** indicate significance at the 5%, 1%, and 0.1% level, respectively. Standard errors are clustered at the product level and are reported in parentheses.

¹ We used a logit model in the inflation part to characterize the excess zeros in our data.

TABLE B3. EXPLORATING THE MODERATION EFFECT OF REVIEW VALENCE

Dependent Variable	Proportion of Helpful Votes (0% -100%)	
<i>Variables</i>	Model 1	Model 2
(Mean-center) Experiential Rating	-0.0485*** (0.0004)	-0.0350*** (0.0009)
(Mean-center) Star Rating	0.0764*** (0.0006)	0.0761*** (0.0008)
Experiential Rating X Star Rating	0.0068*** (0.0004)	0.0065*** (0.0005)
Hedonic Rating		-0.0130*** (0.0007)
Caring Rating		-0.0493*** (0.0014)
Review Length		0.0003*** (2.11e-06)
Title Length		0.0072*** (0.0001)
Review Age		1.39e-05*** (1.31e-06)
Review Availability		-5.53e-05*** (1.32e-05)
Observations	6,508,574	6,508,574
R ²	0.10	0.13

*, **, ***, indicate significance at the 5%, 1%, and 0.1% level, respectively.

Standard errors are clustered at the product level and are reported in parentheses.

WEB APPENDIX C: ADDITIONAL INFORMATION ABOUT STUDY 2

Pretest 1: Selecting an Experiential Purchase and a Material Purchase for the Main Study

We recruited 172 participants through the same population as the main study and pretested 10 purchases (five experiential and five material). Each participant was presented with three randomly selected purchases. For each purchase, participants were asked to imagine that they were participating in a lab study in which one in every 100 participants would be randomly selected to receive that product (e.g., a cooking class), and they had to choose between two options in advance (e.g., two different cooking classes). Participants answered the following questions for each purchase:

1. How much would you care about this choice? (1 = “not at all,” 7 = “very much”)
2. How desirable is [purchase, e.g., “a cooking class”] to you? (1 = “not at all desirable,” 7 = “very desirable”)
3. How knowledgeable are you about [purchase]? (1 = “not at all knowledgeable,” 7 = “very knowledgeable”)
4. To what extent do you think [purchase] is material or experiential? (1 = “purely material,” 9 = “purely experiential”)

A cooking class ($N = 52$) and an espresso machine ($N = 52$) were selected for Study 2 because they did not differ significantly on any of the aforementioned dimensions (all $ps > 0.33$), except that a cooking class was viewed as more experiential than an espresso machine ($p < 0.0001$). The means (standard deviations) are reported below.

	Cooking Class - Experiential	Espresso Machine – Material	t-tests comparing the two purchases
Care about the choice	4.52 (1.64)	4.85 (1.75)	$t(102) = 0.98, p = 0.33$
Desirability of the purchase as a prize	4.13 (1.78)	4.17 (2.01)	$t(102) = 0.10, p = 0.92$
Knowledge about the purchase	3.48 (1.75)	3.23 (1.71)	$t(102) = 0.74, p = 0.46$
Experiential (vs. material) rating	6.44 (1.89)	4.42 (2.30)	$t(102) = 4.89, p < 0.0001$

In addition, in a separate survey, 80 participants were randomly assigned to rate the hedonic (vs. utilitarian) nature of either an espresso machine or a cooking class (1 = “purely utilitarian,” 9 = “purely hedonic”). Participants viewed a cooking class as significantly *less* hedonic ($M = 4.82$, $SD = 1.47$) than an espresso machine ($M = 6.41$, $SD = 2.12$), $t(78) = 3.89, p = .0002$.

Pretest 2: Comparing the Cooking Class and Espresso Machine Options Used in the Main Study

We recruited 30 participants through the same population as the main study. These participants were asked to imagine that they were participating in a lab study in which one in every 100 participants would be randomly selected to receive a cooking class gift certificate [espresso machine] and that they had to choose between two options in advance. The experiential purchase options were Spanish cooking classes offered by two local cooking schools: a Spanish Tapiscos course offered by the Culinarium Cupboard Cooking School (Option A) and a Spanish Tapas course offered by the Chef Upstairs (Option

B); the material purchase options were two espresso machines: a steam espresso machine manufactured by Krups (Option A) and an espresso machine manufactured by Oster (Option B). Participants were presented with the two options side-by-side along with pictures and descriptions adapted from online information. Using a within-subjects design with purchase order randomized, all participants answered the following questions about the cooking class and espresso machine options:

1. Which of these two options would you be more likely to choose? (1 = “definitely option A,” 7 = “definitely option B”)
2. How desirable does each option seem to you? (1 = “not at all desirable,” 7 = “very desirable”; we averaged the ratings across the two options to measure the overall desirability of the purchase)
3. How much would you care about this choice? (1 = “not at all,” 7 = “very much”)
4. How familiar were you with each option? (1 = “have not heard of it,” 2 = “have heard of it but never taken a cooking class there [never used an espresso machine from this brand],” 3 = “have taken a cooking class there [used an espresso machine from this brand]”).
5. To what extent do you think a cooking class [an espresso machine] is material or experiential? (1 = “purely material,” 7 = “purely experiential”)

The pair of cooking classes and the pair of espresso machines did not significantly differ in terms of (1) how much participants preferred one option over the other within the pair ($p = 0.94$), (2) how much participants desired each pair of options ($p = 0.57$), (3) how much participants cared about choosing between the two options within the pair ($p = 0.82$), and (4) how familiar participants were with each option (ps for all pairwise comparisons $> .14$). However, as intended, participants rated a cooking class as more experiential than an espresso machine ($p < 0.0001$). The means (standard deviations) are reported below.

	Cooking Classes - Experiential	Espresso Machines – Material	Paired t-tests comparing the two purchases
Preference for Option A vs. B (higher rating indicated a stronger preference for Option B)	4.80 (1.69)	4.77 (1.87)	$t(29) = 0.07, p = 0.94$
Desirability of the purchase	4.45 (1.04)	4.60 (1.49)	$t(29) = 0.57, p = 0.57$
Care about the choice	4.43 (1.65)	4.37 (1.79)	$t(29) = 0.22, p = 0.82$
Experiential (vs. material) rating	7.10 (1.73)	4.53 (1.57)	$t(29) = 5.82, p < 0.0001$
Familiarity - % of participants who had taken a cooking class from the school [used an espresso machine from the brand]	0% for both cooking schools	3.33% for Krups 6.67% for Oster	all $ps > 0.14$ (pairwise comparisons across four options using one-sample tests of proportions)

Pretest 3: Comparing Positive and Negative Reviews Generated for the Main Study

We used real consumer reviews from Yelp and Amazon as the basis to generate the positive and negative reviews for the main study. Positive and negative reviews for all purchase options had a similar

length (83-85 words). For the positive review, we found a 5-star cooking class review on Yelp and a 5-star espresso machine review on Amazon that had the same number of helpful votes without any unhelpful votes. We extracted four sentences from each review and adapted these eight sentences to suit the Spanish cooking classes and espresso machines used in Study 2. Thus, we created a positive review for each of the four options that consisted of eight sentences with basically the same structure. Similarly, for the negative review, we found a 3-star cooking class review on Yelp and a 3-star espresso machine review on Amazon that had the same number of helpful votes without any unhelpful votes. We extracted three sentences from each review and adapted these six sentences to suit the Spanish cooking classes and espresso machines used in Study 2. Thus, we created a negative review for each of the four options that consisted of six sentences and had basically the same structure.

In the pretest, 120 MTurk participants were presented with either the two Spanish cooking classes or the two espresso machines side-by-side and were asked to read the reviews (one positive and one negative). As in the main study, we randomized on which side (left or right) each option was presented, as well as which of the options received a positive review or negative review. Participants answered the following questions:

1. How much do you think the reviews favor Option A versus Option B? (-3 = “the reviews definitely favor Option A,” 3 = “the reviews definitely favor Option B”)
2. How negative or positive is each review? (-3 = “very negative,” 3 = “very positive”)

Since the positive and negative reviews had been randomly assigned to vary between the two options within each pair, we coded the data for the first question to assess the extent to which participants believed the reviews favored the option with a positive review over the option with a negative review. In comparing cooking classes and espresso machines, we found no significant differences in the extent to which participants believed consumer reviews favored the positively reviewed option over the negatively reviewed option, the valence of negative reviews, and the valence of positive reviews (all $ps > 0.49$). Means (standard deviations) are reported below.

	Cooking Classes - Experiential	Espresso Machines – Material	t-tests comparing the two purchases
The extent to which the reviews favor the positively reviewed option over the negatively reviewed option	2.39 (1.05)	2.25 (1.31)	$t(118) = 0.64, p = 0.52$
The valence of the positive review (a higher rating indicates a more positive valence)	2.62 (0.93)	2.49 (1.15)	$t(118) = 0.69, p = 0.49$
The valence of the negative review (a lower rating indicates a more negative valence)	0.38 (1.07)	0.37 (1.16)	$t(118) = 0.02, p = 0.98$

Further, as intended for both cooking classes and espresso machines, 5-star reviews were viewed as significantly more positive than 3-star reviews (-3 = “very negative,” 3 = “very positive”; $M_{5\text{-star cooking class}} = 2.62, SD = 0.93$ vs. $M_{3\text{-star cooking class}} = 0.38, SD = 1.07, t(60) = 16.88, p < 0.0001$; $M_{5\text{-star espresso machine}} =$

2.49, SD = 1.15 vs. $M_{3\text{-star espresso machine}} = 0.37$, SD = 1.16, $t(58) = 13.90$, $p < 0.0001$). Also, participants believed that the reviews significantly favored the option with a positive review over the option with a negative review ($-3 = \text{"the reviews definitely favor Option A," } 3 = \text{"the reviews definitely favor Option B"}$; $M_{\text{cooking class}} = 2.39$, SD = 1.05, $t(60) = 17.75$ vs. the scale midpoint of 0, $p < 0.0001$; $M_{\text{cooking class}} = 2.25$, SD = 1.31 vs. the scale midpoint of 0, $t(58) = 13.24$, $p < 0.0001$).

Complete Measures in the Main Study

Reliance on Consumer Reviews

- Which [cooking class would you like to attend / coffee maker would you like to have]?

Purchase Knowledge

- How knowledgeable are you about [cooking classes / coffee makers]? (1 = "not at all knowledgeable;" 7 = "very knowledgeable")

Product Familiarity

- Please choose the answer that best describes how familiar you are with the Culinarium Cupboard Cooking School / the Chef Upstairs. ("I have never heard of it" vs. "I have heard of it, but I have never taken a cooking class there" vs. "I have taken a cooking class there")
- Please choose the answer that best describes how familiar you are with Krups/Oster. ("I have never heard of it" vs. "I have heard of it, but I have never used a coffee maker from this brand" vs. "I have used a coffee maker from this brand")

Manipulation Check of the Purchase Type Manipulation

- To what extent do you think [a cooking class/ a coffee maker] is material or experiential? (1 = "purely material;" 9 = "purely experiential")

Ancillary Measure

- Are you: vegetarian, vegan, none of the above

WEB APPENDIX D: FRAMING A SLEEPING BAG AS EITHER AN EXPERIENTIAL OR MATERIAL PURCHASE

Method

Participants. We recruited 203 participants (43% female, $M_{\text{age}} = 32.7$) through MTurk to complete this study in exchange for \$0.30.

Purchase type manipulation. All participants were instructed to imagine that they planned to spend about \$75 on a sleeping bag for camping. To control for potential differences in tendencies to consult with friends or family on these purchases, we asked participants to imagine that they were solely responsible for their purchase decision and would not consult with someone they knew.

Participants were randomly assigned to focus on either the experiential or material aspects of sleeping bags. Participants in the experiential condition were instructed to describe the experience of using a sleeping bag, such as how they would feel sleeping in it, and how it would affect their camping experience. Specifically, they read, “Take a moment to think about the experiential aspects of a sleeping bag. For instance, how would you feel sleeping in it on your camping trip? How would it affect your camping experience? Please write a paragraph describing the experience of using a sleeping bag.” Participants in the material condition were instructed to describe the material aspects of a sleeping bag, such as how durable and light it might be, and whether it would be well-insulated. Specifically, they read, “Take a moment to think about the material aspects of a sleeping bag. For instance, is it well-insulated? How durable and light is it? Please write a paragraph describing a sleeping bag as a material possession.” We confirmed the effectiveness of our framing manipulation in a separate pretest ($N = 166$) in which participants instructed to write about the experiential qualities of a sleeping bag rated a sleeping bag as more experiential ($M = 4.40$, $SD = 1.99$) than those instructed to write about its material qualities ($M = 3.73$, $SD = 2.13$), $t(164) = 2.09$, $p = 0.04$.

Reliance on consumer reviews. We measured reliance on consumer reviews using three seven-point scale items ($\alpha = 0.88$), including “How useful would reading previous consumers’ reviews be in making this purchase?” (1 = “not at all,” 7 = “extremely”); “To what extent would it be important for you to know whether previous consumers are satisfied with a sleeping bag option?” (1 = “not at all,” 7 = “extremely”); and “How much would previous consumers’ reviews influence your purchase decision?” (1 = “not at all,” 7 = “a great deal”)

Results

First, we confirmed that participants did not differ in the time they spent in writing about a sleeping bag between the experiential ($M = 181.63$ seconds, $SD = 282.83$) and material conditions ($M = 180.57$ seconds, $SD = 176.52$), $t(201) = 0.03$, $p = .97$.

Consistent with our hypothesis, participants who thought of a sleeping bag as an experiential purchase indicated they would rely less on consumer reviews ($M = 5.63$, $SD = 1.13$) than participants who thought of a sleeping bag as a material purchase ($M = 5.97$, $SD = 0.94$), $t(201) = 2.33$, $p = .02$, $d = 0.33$.

WEB APPENDIX E: FRAMING A MATTRESS AS EITHER AN EXPERIENTIAL OR MATERIAL PURCHASE

Method

Participants. A total of 641 participants (54% female, one unspecified; $M_{\text{age}} = 36.6$) recruited through MTurk completed this study in exchange for \$0.60.

Purchase type manipulation. All participants were first asked to describe a mattress focusing on either the experiential or material aspects of this purchase. Participants in the experiential condition were instructed to describe the experience of using a mattress, such as how it would feel to lie on and how it would affect their sleep. Specifically, they read, “Take a moment to think about the experiential aspects of a mattress – in other words, the experience of using a mattress. For instance, how does it feel to lie on a mattress? How comfortable are they? How do they affect your sleep? Please write a paragraph explaining why mattresses are primarily an experiential purchase.” Participants in the material condition were instructed to describe the material aspects of a mattress, such as what types of mattresses there are and what they are made of. Specifically, they read, “Take a moment to think about the material aspects of a mattress – in other words, the physical attributes of a mattress. For instance, what types of mattresses are there? How thick are they? What are they made of (e.g., foam, coil, spring)? Please write a paragraph explaining why mattresses are primarily a material purchase.”

Reliance on consumer reviews. On the next page, all participants were instructed to imagine that they were shopping for a mattress and had visited several mattress stores. Participants imagined that before deciding which mattress to buy, they came across a website that provided consumer reviews about mattresses. They first answered three seven-point scale items measuring review reliance, including “How much would you rely on these consumer reviews when deciding which mattress to buy?” (1 = “not at all,” 7 = “very much”); “How helpful do you think these consumer reviews would be for your purchase decision?” (1 = “not at all,” 7 = “extremely”); and “How much would these consumer reviews influence which mattress you buy?” (1 = “not at all,” 7 = “a great deal”). Then, participants were told to imagine that after thinking they had found the mattress they wanted, they came across a somewhat negative consumer review about that mattress. Participants reported how likely they would be to change their mind and search for another mattress to buy (1 = “not likely at all,” 7 = “very likely”). We randomized the order in which participants answered these two sets of dependent measures and found no significant effect of order. The four items reached a high inter-item reliability ($\alpha = 0.88$) and were averaged to serve as our measure of review reliance.

Other measures. We measured the time that participants spent writing about a mattress. Also, participants rated the importance of a mattress purchase on three seven-point scales ($\alpha = 0.93$), including “How much would you care about this purchase decision?” (1 = “not at all,” 7 = “very much”); “How important would this purchase be to you?” (1 = “not at all important,” 7 = “very important”); and “How engaged would you be in this purchase decision?” (1 = “not at all,” 7 = “very much”). Participants also rated the extent to which a mattress is utilitarian versus hedonic on a nine-point scale (1 = “purely

utilitarian,” 9 = “purely hedonic”). As a manipulation check, participants rated the degree to which a mattress was material or experiential (1 = “purely material,” 9 = “purely experiential”).⁶

Results

Manipulation check. Participants in the experiential condition viewed a mattress as more experiential ($M = 5.60$, $SD = 1.74$) than those in the material condition ($M = 3.30$, $SD = 2.02$), $t(639) = 15.53$, $p < .0001$.

Reliance on consumer reviews. As predicted, participants who focused on the experiential aspects of mattresses reported that they would rely less on consumer reviews ($M = 4.90$, $SD = 1.20$) than participants focused on the material aspects of mattresses ($M = 5.10$, $SD = 1.15$), $t(639) = 2.16$, $p = .03$, $d = 0.17$. The small effect size in this study is likely due to the subtlety of the framing manipulation.

Other measures. We confirmed that there was no significant difference in the amount of time that participants spent writing about a mattress between the experiential ($M = 154.00$ seconds, $SD = 145.42$) and material conditions ($M = 151.90$ seconds, $SD = 111.36$), $t(639) = 0.20$, $p = .84$. The purchase type manipulation influenced perceptions of the purchase as important and hedonic: Compared to those in the material condition ($M_{importance} = 6.19$, $SD = 1.00$; $M_{hedonic} = 3.66$, $SD = 1.93$), participants in the experiential condition reported that they would care more about a mattress purchase ($M = 6.36$, $SD = 0.84$, $t(639) = 2.37$, $p = .02$) and rated a mattress as more hedonic ($M = 4.09$, $SD = 1.84$, $t(639) = 2.83$, $p = .005$). However, our results remained significant when we controlled for importance and hedonic ratings. Specifically, in an OLS regression with experiential (vs. material) condition, importance ratings, and hedonic ratings predicting reliance on consumer reviews, the effect of the experiential (vs. material) framing manipulation remained negative and significant ($\beta = -0.24$, $p = .01$). Hedonic ratings did not significantly predict review reliance ($\beta = -0.001$, $p = .96$). Purchase importance was a positive and significant predictor of review reliance ($\beta = 0.23$, $p < .001$). However, given that participants in the experiential condition rated a mattress purchase as more important and purchase importance positively predicted review reliance, purchase importance cannot explain why people relied less on reviews in the experiential condition.

⁶ In addition, we explored the underlying mechanism by asking participants, “When shopping for a mattress, to what extent would you base your decision on a mattress’s objective quality versus your personal taste?” (1 = “definitely on a mattress’s objective quality,” 9 = “definitely on my personal taste”). In hindsight, we realized that it was inappropriate to measure beliefs about taste and quality assessments on two ends of a bipolar scale because they were not significantly, negatively correlated in our studies that separately measured these two constructs (as shown in Web Appendices A and F). Therefore, we do not discuss the results of this measure.

WEB APPENDIX F: ADDITIONAL INFORMATION ABOUT STUDY 3

Complete Measures

Reliance on Consumer Reviews

- How much will you rely on these consumer reviews when making your purchase decision? (1 = “not at all,” 7 = “very much”)
- How helpful are these consumer reviews for you? (1 = “not at all,” 7 = “extremely”)
- How useful are these consumer reviews to you? (1 = “not at all,” 7 = “extremely”)

Quality Assessment Beliefs

- To what extent did these reviews reflect the consumers’ objective assessments of the purchase’s quality? (1 = “not at all,” 7 = “a great deal”)

Taste Assessment Beliefs

- To what extent did these reviews reflect the consumers’ subjective assessments of the purchase’s fit with their own taste and preferences? (1 = “not at all,” 7 = “a great deal”)

Number of Options Discussed in Reviews:

Across the 5 consumer reviews you just read, how many different purchase options were reviewed? For example:

- If all 5 reviews were about the same option (e.g., the same specific brand and model of laptop, the same specific restaurant), enter “1”.
- If the 5 reviews covered two different options (e.g., two different brands and/or models of laptops, two different restaurants), enter “2”.
- If the 5 reviews were each about a different option (e.g., five different brands and/or models of laptops, five different restaurants), please enter “5”.

Manipulation Check of the Purchase Type Manipulation

- To what extent is this purchase material or experiential? (1 = “purely material,” 9 = “purely experiential”)

Purchase Importance

- How much will you care about this purchase decision? (1 = “not at all,” 7 = “very much”)
- How important is this purchase to you? (1 = “not at all important,” 7 = “very important”)
- How engaged will you be in this purchase decision? (1 = “not at all,” 7 = “very much”)

Purchase Knowledge

- How knowledgeable are you about this purchase? (1 = “not at all knowledgeable,” 7 = “very knowledgeable”)

Expected Cost

- How much will you spend on this purchase? (Please provide a dollar amount, not a range)

Power Calculation and Sample Size Determination

Based on the effect size observed in a pilot study using the same subject pool and similar stimuli as study 3 (Cohen's $d = 0.4$), we estimated that we needed 270 participants to have 90% statistical power to detect a significant difference between two conditions. Thus, we aimed to recruit 300 participants.

Results about Taste Assessment Beliefs

Compared to material purchases ($M = 5.38$, $SD = 1.23$), participants viewed an assessment of an experiential purchase as more a matter of taste ($M = 5.68$, $SD = 1.12$), $t(299) = 2.21$, $p = .028$. Taste assessment beliefs did not significantly predict review reliance regardless of whether it was the only predictor ($\beta = 0.08$, $p = .18$) or it was included as a predictor together with an indicator for the experiential (vs. material) condition ($\beta = 0.10$, $p = .10$). Furthermore, when we included all of controls we collected (taste assessment beliefs, number of options covered by the reviews, purchase importance, purchase knowledge, and log expected cost) in a multi-mediator model (model 4 in Hayes 2013) along with quality assessment beliefs, quality assessment beliefs was the only significant mediator (indirect effect = -0.12 , $SE = 0.05$, 95% $CI = [-0.24, -0.03]$). Taste assessment beliefs was not a significant mediator in this model (indirect effect = 0.02 , $SE = 0.02$, 95% $CI = [-0.002, 0.07]$).

Correlation among the Dependent, Mediator, and Control Variables

	Mean	SD	1	2	3	4	5	6
1. Review Reliance	5.63	1.27						
2. Quality Assessment Beliefs	5.08	1.42	0.37*					
3. Taste Assessment Beliefs	5.51	1.19	0.08	-0.07				
4. Number of Options Discussed in Reviews	1.70	3.49	0.04	0.06	0.004			
5. Purchase Importance	5.96	0.96	0.29*	0.17*	0.21*	0.04		
6. Purchase Knowledge	5.42	1.24	0.06	0.16*	0.05	0.03	0.33*	
7. Log Expected Cost	5.31	1.11	0.15*	0.03	0.02	-0.05	0.27*	0.13*

This table is based on 297 observations. Three observations had a non-numeric response to the question about the number of options discussed in the reviews, and one observation had an invalid value of log expected cost. They were excluded from this table.

Notably, quality assessment beliefs and taste assessment beliefs did not significantly correlate with each other ($r = -0.07$, $p = 0.22$).

WEB APPENDIX G: ADDITIONAL INFORMATION ABOUT STUDY 4

Complete Measures

Reliance on Consumer Reviews

- After reading this review, would you like to change your mind and choose the other [ice cream shop / ice cream maker]? (“I would like to switch to the other [ice cream shop / ice cream maker]” vs. “I would like to stick to my original choice”)

Quality Assessment Beliefs

- To what extent does this review reflect the consumer’s assessment of the objective quality of the [ice cream shop / ice cream maker]? (1 = “not at all;” 9 = “a great deal”)

Manipulation Check of the Purchase Type Manipulation

- To what extent do you think [a visit to an ice cream shop / an ice cream maker] is a material or experiential purchase? (1 = “purely material;” 9 = “purely experiential”)

Purchase Importance

- How much did you care about the choice that you were asked to make between [two ice cream shops / two ice cream makers]? (1 = “not at all important,” 7 = “very important”)
- How important was this choice to you? (1 = “not at all important,” 7 = “very important”)
- How engaged would you be in this decision? (1 = “not at all important,” 7 = “very important”)

Purchase Knowledge

- How knowledgeable are you about [ice cream shops / ice cream makers]? (1 = “not at all knowledgeable;” 7 = “very knowledgeable”)

Product Familiarity

- Please choose the answer that best describes how familiar you are with [Smitten Ice Cream / Rori’s Artisanal Creamery]. (“I have never heard of it” vs. “I have heard of it, but I have never eaten ice cream there” vs. “I have eaten ice cream there”)
- Please choose the answer that best describes how familiar you are with [PowerDoF Ice Cream Maker / EECOO Ice Cream Maker]. (“I have never heard of it” vs. “I have heard of it, but I have never used this ice cream maker” vs. “I have used this ice cream maker”)

Utilitarian-Hedonic Rating

- To what extent do you think [a visit to an ice cream shop / an ice cream maker] is utilitarian or hedonic? (1 = “purely utilitarian;” 9 = “purely hedonic”)

Power Calculation and Sample Size Determination

Based on the effect size observed in a pilot study that used the same subject pool and same stimuli as study 4 (i.e., odds ratio = 0.38; the proportion of people relying on the consumer review in the material and experiential conditions was 54% and 30%, respectively), we estimated that we needed 190 participants to have 90% statistical power to detect a significant difference between two conditions. The pilot study suggested that approximately 20% of participants in our subject pool had previously used the products and thus would be excluded from our analysis. Thus, we aimed to recruit 250 participants.

Correlation among the Dependent, Mediator, and Control Variables

	Mean	SD	1	2	3	4
1. Review Reliance (A Binary Variable)	0.44	0.50				
2. Quality Assessment Beliefs	4.58	2.06	0.32*			
3. Hedonic Rating	7.07	1.69	-0.07	-0.14*		
4. Purchase Importance	3.49	1.36	0.10	0.06	-0.22*	
5. Purchase Knowledge	2.32	1.54	-0.03	0.03	-0.01	0.33*

WEB APPENDIX H: ADDITIONAL INFORMATION ABOUT STUDY 5

Complete Measures

Reliance on Consumer Reviews

- After reading this review, how likely is it that you would change your mind and choose the other [ice cream shop / ice cream maker]? (1 = “I would definitely stick to my original choice;” 7 = “I would definitely switch to the other [ice cream shop / ice cream maker]”)

Manipulation Check of the Quality Assessment Manipulation

- To what extent does this review reflect the consumer’s assessment of the objective quality of the [ice cream shop / ice cream maker]? (1 = “not at all;” 9 = “a great deal”)

Manipulation Check of the Purchase Type Manipulation

- To what extent do you think [a visit to an ice cream shop / an ice cream maker] is a material or experiential purchase? (1 = “purely material;” 9 = “purely experiential”)

Purchase Importance

- How much would you care about choosing between [two ice cream shops / two ice cream makers]? (1 = “not at all important,” 7 = “very important”)
- How important would this choice be to you? (1 = “not at all important,” 7 = “very important”)
- How engaged were you in this decision? (1 = “not at all important,” 7 = “very important”)

Purchase Knowledge

- How knowledgeable are you about [ice cream shops / ice cream makers]? (1 = “not at all knowledgeable;” 7 = “very knowledgeable”)

Product Familiarity

- Please choose the answer that best describes how familiar you are with [Smitten Ice Cream / Rori’s Artisanal Creamery]. (“I have never heard of it” vs. “I have heard of it, but I have never eaten ice cream there” vs. “I have eaten ice cream there”)
- Please choose the answer that best describes how familiar you are with [PowerDoF Ice Cream Maker / EECOO Ice Cream Maker]. (“I have never heard of it” vs. “I have heard of it, but I have never used this ice cream maker” vs. “I have used this ice cream maker”)

Utilitarian-Hedonic Rating

- To what extent do you think [a visit to an ice cream shop / an ice cream maker] is utilitarian or hedonic? (1 = “purely utilitarian;” 9 = “purely hedonic”)

Power Calculation and Sample Size Determination

Since study 5 used the same stimuli and a similar paradigm as study 4, we conducted a power analysis based on the effect size observed in study 4 (odds ratio = 0.49, which was equivalent to Cohen’s $d = 0.40$). Using G*Power 3.1., we estimated that we needed 772 participants to have 80% statistical power to detect a significant two-way interaction if our quality assessment manipulation could reduce the effect of purchase type on review reliance to null. Thus, we aimed to recruit 800 participants.

Correlation among the Dependent and Control Variables

	Mean	SD	1	2	3
1. Review Reliance	4.50	1.61			
2. Hedonic Rating	7.05	2.01	-0.03		
3. Purchase Importance	4.61	1.42	0.25*	-0.11*	
4. Purchase Knowledge	3.31	1.69	0.01	0.06	0.30*

WEB APPENDIX I: A STUDY COMPARING COMPANY-PROVIDED INFORMATION AND CONSUMER REVIEWS (REPORTED IN THE GENERAL DISCUSSION)

Pretest: Selecting an Experiential Purchase and a Material Purchase for the Main Study

We recruited 100 participants through MTurk and pretested nine purchases (four experiential and five material). Each participant was presented with four randomly selected purchases. For each purchase, participants were asked to imagine that they were interested in making that purchase and respond to the following questions:

1. How much would you care about this purchase? (1 = “not at all,” 7 = “very much”)
2. How important would this purchase be to you? (1 = “not at all important,” 7 = “very important”)
3. How much company-provided information (e.g., from the manufacturer, producer, service provider, etc.) do you think you would be able to find for this purchase? (1 = “none,” 7 = “very much”)
4. How many consumer reviews do you think you would be able to find for this purchase? (1 = “none,” 7 = “very many”)
5. How knowledgeable would you be about this purchase prior to looking up information and consumer reviews for it? (1 = “not knowledgeable at all. I have no idea what I would buy,” 7 = “very knowledgeable. I know exactly what I would buy”)

The first two items were highly correlated ($r = 0.88$) and were averaged as a measure of how much participants cared about a given purchase.

A Broadway ticket ($N = 45$) and set of speakers ($N = 43$) were selected because they did not significantly differ on aforementioned dimensions (all $ps > 0.05$). The means (standard deviations) are reported below.

	A Broadway Show Ticket - Experiential	A Set of Speakers - Material	t-tests comparing the two purchases
Care about the purchase	4.53 (1.61)	4.94 (1.66)	$t(86) = 1.17, p = 0.25$
Perceived availability of consumer reviews	5.42 (1.39)	5.91 (0.92)	$t(86) = 1.92, p = 0.06$
Perceived availability of company- provided information	5.33 (1.52)	5.63 (1.02)	$t(86) = 1.06, p = 0.29$
Knowledge about the purchase	4.08 (1.95)	4.19 (1.92)	$t(86) = 0.24, p = 0.81$

Main Study

This study tested for a boundary condition by examining whether people’s tendency to rely less on information when making experiential purchases (relative to material purchases) is specific to consumer reviews or whether it would extend to a non-consumer-generated source of information: company-provided information.

Method

Participants. We recruited 243 participants (40% female, $M_{\text{age}} = 30.6$) through MTurk to complete this study in exchange for \$0.30. Participants were randomly assigned to one condition of a 2 (purchase type: experiential vs. material) \times 2 (information type: consumer reviews vs. company-provided information) between-subjects design.

Purchase type manipulation. Participants were asked to imagine they were going to spend \$125 on either a ticket for a Broadway show (experiential condition) or a set of speakers (material condition). To control for potential differences in tendencies to consult with friends or family on these purchases, we instructed participants to imagine that they were solely responsible for their purchase decision and would not consult with someone they knew. These purchases (both in the domain of music) were selected from a pretest ($N = 100$) described earlier.

Information type manipulation and reliance on information. In the consumer-review condition, participants rated the usefulness, importance, and influence of consumer reviews. Specifically, they responded, “How useful would reading previous consumers’ reviews be in making this purchase?” (1 = “not at all,” 7 = “extremely”); “To what extent would knowing whether previous consumers are satisfied with an option be important in your decision to make this purchase?” (1 = “not at all,” 7 = “extremely”); and “How much would previous consumers’ reviews influence your purchase?” (1 = “not at all,” 7 = “a great deal”)

In the company-provided-information condition, participants rated the usefulness, importance, and influence of information provided by theaters/speaker manufacturers. Specifically, they responded, “How useful would knowing information provided by theaters [speaker manufacturers] be in making this purchase?” (1 = “not at all,” 7 = “extremely”); “To what extent would knowing the descriptions of an option provided by the theater [speaker manufacturer] be important in your decision to make this purchase?” (1 = “not at all,” 7 = “extremely”); and “How much would information provided by theaters [speaker manufacturers] influence your purchase?” (1 = “not at all,” 7 = “a great deal”). These questions served not only as our measure of reliance on information ($\alpha = 0.84$) but also as our manipulation of information type.

Other measures. Participants rated the purchase in terms of availability of consumer reviews and company-provided information, purchase importance, and knowledge, all on the same seven-point scales as in the pretest described earlier. Participants also rated the extent to which a Broadway show [a speaker] is an experiential versus material purchase (1 = “purely material,” 9 = “purely experiential”).

Results

Participants rated a Broadway show ticket as more experiential ($M = 7.47$, $SD = 1.73$) than a set of speakers ($M = 3.48$, $SD = 2.07$), $t(241) = 16.28$, $p < 0.0001$.

A 2 (purchase type) \times 2 (information type) ANOVA on reliance on information yielded the predicted significant interaction, $F(1, 239) = 5.73$, $p = .02$. A contrast analysis further showed that participants only viewed information to be less useful for experiential (vs. material) purchases when the information came in the form of consumer reviews ($M_{\text{experiential}} = 5.71$, $SD = 0.96$ vs. $M_{\text{material}} = 6.05$, $SD =$

0.80), $F(1, 239) = 3.98, p < .05$; there was no such difference for company-provided information ($M_{\text{experiential}} = 5.81, SD = 0.96$ vs. $M_{\text{material}} = 5.57, SD = 1.12$), $F(1, 239) = 1.95, p = .16$.

Participants in the experiential and material conditions did not significantly differ in knowledge about the purchase, perceived availability of consumer reviews, or perceived availability of company-provided information ($ps > .29$). The means (standard deviations) are reported below. Although participants rated speakers to be more important than a Broadway show ticket ($p = 0.001$), our findings are robust when we control for caring about the purchase. Specifically, an analysis of covariance (ANCOVA) revealed that when we statistically controlled for caring about the purchase, the predicted interaction between purchase type and information type remained significant, $F(1, 238) = 6.73, p = 0.01$.

	A Broadway Show Ticket - Experiential	A Set of Speakers - Material	t-tests comparing the two purchases
Care about the purchase	4.62 (1.64)	5.24 (1.19)	$t(241) = 4.03, p = 0.001$
Perceived availability of consumer reviews	5.52 (1.14)	5.36 (1.22)	$t(241) = 1.06, p = 0.29$
Perceived availability of company-provided information	5.33 (1.16)	5.17 (1.09)	$t(241) = 1.07, p = 0.29$
Knowledgeable about the purchase	3.39 (1.74)	3.55 (1.74)	$t(241) = 0.68, p = 0.50$

Ancillary Measures in the Main Study

These ancillary measures were collected after the dependent measure of reliance on consumer reviews (company-provided information).

1. How much time would you spend searching for and reading information provided by theaters [speaker manufacturers] before making this purchase? (1 = “no time at all,” 7 = “a great deal of time”)
2. Imagine that you are browsing online and are considering a particular Broadway show [a particular model of a set of speakers]. You are reading information from a comprehensive and independent review website. On this website, consumers can rate any previous purchase on a 5-star scale. 1 star is the lowest and 5 stars is the highest rating. You find that the average rating of the speakers/show you are considering is 3 stars/4 stars.
 - How desirable is this option? (1 = “not at all,” 7 = “extremely”)
 - How attractive is this option? (1 = “not at all,” 7 = “extremely”)
 - How likely are you to purchase this option? (1 = “very unlikely,” 7 = “very likely”)
3. Some things you can purchase are largely interchangeable—there are many other things just like it that could substitute and serve essentially the same function. Things that are interchangeable are easily replaceable. Other things you can purchase are much more singular—there are not many things like it or that would be a good substitute. Things that are singular feel unique and hard to replace. Please rate how interchangeable you think this purchase is on the following scale.

(1 = “completely interchangeable,” 5 = “not interchangeable at all”; adapted from Rosenzweig and Gilovich 2011)

4. If you were to make this purchase, to what extent do you think other consumers’ evaluations of a particular option would reflect your own evaluation of that option? (1 = “not at all,” 7 = “exactly”)
5. If you were to make this purchase, how similar do you think other consumers’ assessments of a particular option would be to your own assessment of that option? (1 = “not at all similar,” 7 = “extremely similar”)
6. If you were to make this purchase, how similar do you think other consumers’ tastes and preferences would be to your own tastes and preferences? (1 = “not at all similar,” 7 = “extremely similar”)
7. To what extent do you think evaluations of an option are unique to each person? (1 = “not at all unique,” 7 = “very unique”)
8. To what extent would you be able to accurately evaluate a Broadway show [a set of speakers]? (1 = “not at all,” 7 = “very much”)
9. To what extent would you be able to evaluate a Broadway show [a set of speakers] independently without looking up other consumers’ reviews? (1 = “not at all,” 7 = “very much”)
10. To what extent would you be able to evaluate a Broadway show [a set of speakers] independently without looking up information provided by theaters [speaker manufacturers]? (1 = “not at all,” 7 = “very much”)
11. How difficult or easy do you think it would be to find information about this purchase from theaters [speaker manufacturers]? (1 = “very difficult,” 7 = “very easy”)
12. How difficult or easy do you think it would be to find consumer reviews about this purchase? (1 = “very difficult,” 7 = “very easy”)
13. Typically, if you were to make this purchase, would you likely make your decision alone or with other people you know (e.g., your friends, family members)? (1 = “definitely alone,” 7 = “definitely with other people”)
14. Have you considered purchasing a ticket to watch a Broadway show [a set of speakers] in the past 12 months? (Yes, No)
15. Do you intend to purchase a ticket to watch a Broadway show [a set of speakers] in the next 12 months? (Yes, No)

WEB APPENDIX J: A STUDY EXPLORING WHETHER SHOPPERS UNDERESTIMATE THE VALUE OF CONSUMER REVIEWS FOR EXPERIENTIAL PURCHASES (REPORTED IN THE GENERAL DISCUSSION)

Pretest 1: Selecting Two Experiential Purchases and Two Material Purchases for the Main Study

We recruited 247 participants through the same population as the main study and pretested four purchases (two experiential and two material) with three to four pairs of options for each purchase. Each participant was randomly presented with a pair of options for two purchases. For each purchase, participants were asked to imagine that they were choosing between the two options and respond to the following questions:

1. How much would you care about this purchase? (1 = “not at all,” 7 = “very much”)
2. How desirable does each option seem to you? (1 = “not at all desirable,” 7 = “very desirable”; we averaged the ratings across the two options to measure the overall desirability of the purchase)
3. To what extent do you think [purchase] is material or experiential? (1 = “purely material,” 9 = “purely experiential”)
4. How familiar were you with each option? (1 = “I have never heard of it,” 2 = “I have heard of it but not tried it”, 3 = “I have tried it”)

Two chip flavors (Simply 7 Tomato Basil Hummus Chips and Simply 7 Bruschetta Lentil Chips; $N = 46$) and two flashlight options (Harbor Freight Tool 3.5 inch 9-LED bulb mini flashlight and Harbor Freight Tool 6 inch rubber flashlight; $N = 39$) were selected for the main study because they did not significantly differ in how much participants cared about the purchase ($p = 0.53$) or desired the options ($p = 0.18$), and a bag of chips were rated as more experiential than a flashlight ($p < 0.0001$). The means (standard deviations) are reported below.

	A Bag of Chips - Experiential	A Flashlight – Material	t-tests comparing the two purchases
Care about the purchase	3.48 (1.43)	3.28 (1.47)	$t(83) = 0.62, p = 0.53$
Desirability of the pair of options	4.62 (1.27)	4.29 (0.83)	$t(83) = 1.36, p = 0.18$
Experiential (vs. material) rating	5.57 (2.68)	2.56 (1.92)	$t(83) = 5.83, p < 0.0001$
The % of participants who had tried the specific options used in the main study	7.32% for Tomato Basil Hummus Chips and 0.00% for Bruschetta Lentil Chips	13.33% for Harbor Freight Tool 3.5 inch 9-LED bulb mini and 3.33% for Harbor Freight Tool 6 inch rubber	all $ps > 0.43$ (pairwise comparisons across four options using two-sample tests of proportions)

Pretest 2: Consumer Review Generation for the Main Study

To generate consumer reviews, we recruited 203 participants through the same population as the main study and randomly assigned them to receive one product (one of the two flavors of chips in the experiential condition or one of two types of flashlights in the material condition). Participants were instructed to try the product, rate how much they liked it (1 = “not at all,” 7 = “very much”), and assess its quality (1 = “very bad,” 7 = “very good”). The two product ratings ($r = 0.78$) were averaged to create a composite score of purchase evaluations. Participants were next asked to write a review for the product as if they were writing a review on Amazon. They were informed that their review may be shared with future lab participants. To ensure reviews were generated based on participants’ consumption experience in the lab, we excluded reviews of 11 participants who had previously consumed the product and reviews of 5 participants who did not consume the chips due to health reasons. The average length of the reviews did not differ between the two conditions ($M_{\text{experiential}} = 39.84$ words, $SD = 9.02$ vs. $M_{\text{material}} = 40.93$ words, $SD = 8.76$), $t(185) = 0.84$, $p = 0.40$. Also, there was no difference in participants’ purchase evaluations in the two conditions ($M_{\text{experiential}} = 5.34$, $SD = 1.29$ vs. $M_{\text{material}} = 5.07$, $SD = 1.24$), $t(185) = 1.44$, $p = 0.15$.

Main Study

This study explored whether people accurately predict how useful consumer reviews would be in predicting their own product evaluations.

Method

Participants. We recruited 469 university students (63% female; $M_{\text{age}} = 21.7$, 3 unspecified) to complete this study as part of a one-hour session. Participants were assigned to one cell of a 2 (experiential vs. material purchase) \times 2 (no consumption vs. consumption) between-subjects design. We excluded 42 participants who had consumed the product prior to the study and 2 participants who did not consume the experiential product due to dietary restrictions. The reported analysis thus includes 425 participants.

Purchase type manipulation. Participants considered the purchase of either a bag of chips (experiential condition) or a flashlight (material condition). We included two options in each condition for stimuli sampling purposes (see Pretest 1), but collapsed across options within condition in the following study procedures and results.

Consumption manipulation. Participants in the no consumption condition were presented with only a picture of the product—either a bag of chips or flashlight. Participants in the consumption condition were presented with an actual bag of chips or flashlight and instructed to try the product.

Purchase evaluations. Participants in the consumption condition rated how much they liked it (1 = “not at all,” 7 = “very much”) and its quality (1 = “very bad,” 7 = “very good”). The average of these two ratings served as the measure of purchase evaluations ($r = 0.78$).

Reliance on consumer reviews. All participants were then presented with a review randomly selected from a collection of consumer reviews written by peers who had previously tried the product (see Pretest 2). Upon being presented with the review, participants in the no consumption condition indicated

their reliance on the consumer review by rating how useful the review would be in making their purchase decision (1 = “not at all,” 7 = “extremely”).

Other measure. Participants rated whether they had previously heard of or tried the product.

Results

Reliance on consumer reviews. Participants in the no consumption condition indicated they would rely less on consumer reviews for the experiential purchase ($M = 4.62$, $SD = 1.40$) than for the material purchase ($M = 5.25$, $SD = 1.40$), $t(208) = 3.29$, $p = .001$.

Actual differences in purchase evaluations. To examine people’s accuracy in discounting consumer reviews for experiential purchases (relative to material purchases), we analyzed the purchase evaluations made by participants in the consumption condition. Specifically, we examined differences in purchase evaluations between each participant who wrote a consumer review (in Pretest 2) and each participant who read that consumer’s review after trying the product him/herself (in the main study). Comparing the average of absolute differences for each purchase type, we found no statistically significant difference ($M_{\text{experiential}} = 1.21$, $SD = 0.96$ vs. $M_{\text{material}} = 1.12$, $SD = 0.84$), $t(213) = 0.69$, $p = .49$. This observation provides preliminary evidence to suggest that people underestimate the usefulness of consumer reviews for experiential purchases (relative to material purchases).

Ancillary Measures in the Main Study

These ancillary measures were collected after participants reported their purchase evaluations and review reliance.

1. For participants in the no-consumption condition:
 - To what extent would these participants’ experience with the chips [flashlight] reflect your own experience with them [it]? (1 = “not at all,” 7 = “exactly”)
 - How similar would these participants’ tastes and preferences for the chips [flashlight] be to your own tastes and preferences for them [it]? (1 = “not at all similar,” 7 = “extremely similar”)
 - To what extent would these participants’ judgment of the quality of the chips [flashlight] reflect your own judgment of their [its] quality? (1 = “not at all,” 7 = “exactly”)
 - How similar would these participants’ assessments of the quality of the chips [flashlight] be to your own assessment of their [its] quality? (1 = “not at all similar,” 7 = “extremely similar”)
2. For participants in the consumption condition:
 - To what extent do these participants’ experience with the chips [flashlight] reflect your own experience with them [it]? (1 = “not at all,” 7 = “exactly”)
 - How similar are these participants’ tastes and preferences for the chips [flashlight] be to your own tastes and preferences for them [it]? (1 = “not at all similar,” 7 = “extremely similar”)

- To what extent do these participants' judgment of the quality of the chips [flashlight] reflect your own judgment of their [its] quality? (1 = "not at all," 7 = "exactly")
 - How similar are these participants' assessments of the quality of the chips [flashlight] be to your own assessment of their [its] quality? (1 = "not at all similar," 7 = "extremely similar")
3. In general, how much do you like chips/flashlights? Please think about your preferences for chips/flashlights generally—not the specific option you were shown today. (1 = "hate them," 7 = "love them").