

The Impact of Acquisition Mode on Expected Speed of Product Mastery and Subsequent Consumer Behavior

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Consumers can obtain skill-based products through a variety of acquisition modes, such as purchase or rental. Despite the rise of nonpurchase acquisition modes, surprisingly little research has explored the effects of differential acquisition modes on consumer behavior. This research begins to fill this gap in the literature by examining the effect of acquisition mode on the expected time necessary to master newly adopted skill-based products and the downstream consequences for consumers and marketers. **Results of four experiments and a field study show that purchasing, versus renting, products requiring skill-based learning increases the amount of time consumers expect to be required to master them.** Further, the differences in speed of product mastery, in turn, impact subsequent consumer behavior via differential levels of product use commitment.

Keywords: ownership, renting, skill-based products, social comparison, relative ability, product-use commitment

Consumers all too often give up on learning the skills necessary to fully utilize their newly acquired

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surfboard, high-technology yogurt maker, or electric guitar, despite the initial enthusiasm and best of intentions brought on by the new possession (Billeter, Kalra, and Loewenstein 2011; den Ouden et al. 2006). These types of products, referred to as *skill-based products*, require mastery—that is, learning and skill development—before they can be sufficiently utilized or enjoyed, yet consumers frequently fail to obtain such skills and end up never using the acquired products (Billeter et al. 2011). To illustrate, 22% of consumers who receive a high-technology gift (i.e., a skill-based product) fail to ever learn how to use it, and between 60% and 72% of UK consumers who had purchased coffee machines, juicers, plastic-bag-sealing devices, or yogurt makers failed to ever use them (Walker 2007). Similarly, den Ouden et al. (2006) reported that consumers will try to learn a new technology for only 20 minutes before giving up and that 50% of the “defective” products returned to electronic stores are actually fully functional.

Although skill-based products have traditionally been obtained through purchase, consumers increasingly choose to rent them instead (Bardhi and Eckhardt 2012) through

companies such as Grover, Rent My Instrument, Home Depot, or Lowes Tool Rental. Despite their growing popularity, nonpurchase-acquisition-mode alternatives have received remarkably little academic attention (Schaefer, Lawson, and Kukar-Kinney 2016). While some have explored the antecedents of consumers' initial choice of acquisition mode (Bardhi and Eckhardt 2012; Durgee and O'Connor 1995), surprisingly little research has examined whether and how renting rather than purchasing a product might affect subsequent consumption behavior.

This research seeks to fill this gap by investigating how acquisition mode affects product usage and subsequent consumer behavior. Our theorizing is built on three basic arguments. First, novice consumers rely on spontaneous comparisons with reference-group members similar to them when judging their own ability to learn the skills needed to master skill-based products (Festinger 1954; Nicholls 1984; Wheeler, Martin, and Suls 1997). Second, purchasers and renters will differ systematically in the type of reference group they recruit, with the former (latter) being more likely to compare themselves to other purchasers (renters). Third, purchasers, as a reference group, are perceived as more skilled than renters or average users (Csikszentmihalyi 2000; van Rekom, Verlegh, and Slokkers 2009). As a result, we propose and demonstrate in five studies that novice purchasers, relative to renters, expect that it will take more time to learn the skills necessary to master their newly acquired skill-based products; consequently are less committed to using the product; and, in turn, exhibit intentions and behavior less favorable to marketers, such as lower reacquisition intentions, lower social media engagement, and decreased purchase of accessories and product upgrades.

THEORETICAL BACKGROUND

Although the consumption of products often occurs effortlessly, at times it requires considerable effort and product use commitment from consumers (Bagozzi and Warshaw 1990; Billeter et al. 2011; Cutright and Samper 2014). This is particularly true for skill-based products, which can be appreciated fully only if they are mastered—that is, if consumers acquire the skills necessary to use them (Billeter et al. 2011; Murray and Häubl 2007). This idea is consistent with research on motivation (Bandura 1997; James 1890/1980; Louro, Pieters, and Zeelenberg 2007), which suggests that expectations of success and, particularly, the cost of attaining such success, are key factors influencing consumers' commitment to initiate behavior that will lead to successful completion of difficult tasks. Thus, uncovering drivers of consumers' expectations regarding the effort or time required to master skill-based products is important to determine their commitment to using the product and, ultimately, their subsequent consumption behavior (Bagozzi and Warshaw 1990; Bandura 1997;

Nicholls 1984; Wheeler et al. 1997). As discussed next, we propose that among novice consumers, such expectations are based on comparisons to salient reference groups.

Social Comparison

To accurately assess how much effort or time is necessary to learn the skills needed to utilize products, consumers tend to rely on objective and reliable information, such as their past performance on similar tasks (Billeter et al. 2011; Critcher and Rosenzweig 2014). Yet when such knowledge is lacking—as is the case for novices—consumers are likely to rely on comparisons with salient other consumers while forming their expectations about product mastery requisites (Bandura and Jourden 1991; Festinger 1954; Wheeler et al. 1997; Wheeler and Miyake 1992). Put another way, in the absence of objective information to form judgments of their own abilities, consumers are likely to turn to members of salient reference groups to make inferences about the effort or time necessary to perform a particular skill-based task (Nicholls 1984; Wheeler et al. 1997). However, if consumer clusters differ systematically in the type of reference group to which they compare themselves, the outcomes of such comparisons may also differ.

Social Comparison and Salient Reference Groups

Although outside factors may influence which particular reference groups are used for social comparison, consumers most often compare themselves to those they perceive to have similar characteristics or attributes (Festinger 1954; Wheeler et al. 1997; Wood 1989), those who have performed tasks similar to the one at hand (Major and Forcey 1985; Wheeler et al. 1997; Wood 1989), or, more generally, those considered part of salient reference groups (Alicke, Zell, and Bloom 2010; Crocker and Major 1989). In addition, social groups are often formed based on the type of products group members own, and nongroup members may attempt to transfer a group's identity onto themselves by purchasing products typically owned by that group (Berger and Heath 2008; Berger and Ward 2010; Ward and Dahl 2014). In contrast to product purchasers, however, product renters often circumvent reference-group associations with product purchasers. For example, Bardhi and Eckhardt (2012) found that, among a sample of Zipcar users, renters avoided associating themselves with the brand community and with car owners. Based on this work and others (Bearden, Netemeyer, and Teel 1989; Escalas and Bettman 2003), we expect that acquisition mode will influence which individuals will be salient at the time consumers are forming judgments about mastery of their products. Specifically, we argue that purchasers are likely to draw on comparisons to other purchasers, and renters are likely to draw on comparisons to other renters, when forming their expectations for speed of product mastery.

Importantly, since reference-group comparisons have been shown to impact spontaneous subjective judgments (Biernat, Manis, and Nelson 1991), the differential salience of other purchasers versus renters, and the abilities associated with each, in turn, will impact novices' estimates of their own ability relative to the referent others, with referent purchasers (renters) engendering lower (higher) perceived ability among product purchasers (renters).

Salient Reference Groups and Perceived Relative Ability

Research has demonstrated a belief among consumers that product owners have had time to practice and perfect the skills associated with skill-based products, leading to greater ability than nonowners (Csikszentmihalyi 2000). Further, differences in product ability between owners and nonowners are not just perceptual; product owners generally have greater product usage abilities than other users (van Rekom et al. 2009). Thus, since novice purchasers have yet to learn how to use their skill-based products, they may feel dissimilar from other product owners regarding their product usage ability.

Given that abilities, effort, and time combine to determine an individual's performance (Nicholls 1984), consumers who perceive their current ability as inferior to others within their reference group will expect that they require more effort or time than other reference-group members to acquire the skills necessary to perform a task at a certain level (e.g., play a song on a music instrument, hit a target from a certain distance with a bow and arrow). As a result, novice purchasers, who compare themselves to owners, are likely to perceive their current ability to be inferior to others within their reference group; consequently, they should expect a slower speed of product mastery and hence become less committed to learning the skills necessary to successfully perform a task (Festinger 1954; Wheeler et al. 1997). This notion is consistent with extant findings demonstrating that extensive (vs. short) estimations of time to master the skills necessary to utilize products have negative consequences on intentions to purchase (Thompson, Hamilton, and Rust 2005), use (Bagozzi, Davis, and Warshaw 1992; Billeter et al. 2011), and repurchase a product (Gupta and Kim 2007).

Further, while novices may perceive themselves to be relatively less skilled at using a product compared to product purchasers, this is not likely to be the case when novices compare their abilities to product renters. In contrast to purchasing, renting is perceived to be less permanent, more reversible, and less risky (Durgee and O'Connor 1995; Pocheptsova, Kivetz, and Dhar 2008; Trocchia, Beatty, and Hill 2006). These associations are likely to lead to perceptions that the typical renter has lower usage frequency and dedication to learning skills necessary to perform tasks or use products (Bardhi and Eckhardt 2012; Durgee and O'Connor 1995; Trocchia et al. 2006). In addition, renters are known to rent products simply for test or trial purposes

(Dreyfus 1983; Durgee and O'Connor 1995). Therefore, renters are likely to be perceived as a relatively lower-skilled reference group, and, consequently, novice renters, who compare themselves to other renters, are unlikely to judge their abilities as inferior to those of the reference group, thus circumventing negative impacts to their speed-of-mastery estimation and commitment to using the product.

In sum, we propose that novice purchasers (renters) are more likely to recruit other product purchasers (renters) as a reference group and that the referent purchasers (renters) are perceived to have relatively higher (lower) ability. Thus, purchasing, relative to renting, should accordingly lower a novice's perceived relative ability to use the skill-based product. The focus of this research, however, is on the consequences of such an effect. Specifically, the negative impact of relative ability perceived from purchasing a skill-based product should not only increase the time purchasers, relative to renters, expect it will take to acquire the skills necessary to master the product, but also reduce commitment to using the product, which consequently has detrimental effects on important marketing outcomes such as social media engagement or purchase of related products (e.g., accessories, complementary products, product upgrades).

In proposing and testing our framework, we contribute to the existing literature in three important ways. First and foremost, we make substantive contributions to the ownership literature by being the first to examine whether and how acquisition mode affects novices' usage of skill-based products as well as relevant marketing outcomes. Second, our work complements extant research on the endowment effect and consumer motivation. The rich endowment effect literature has demonstrated that ownership increases consumers' motivation to keep products (Dommer and Swaminathan 2013; Dommer, Swaminathan, and Ahluwalia 2013) as well as their evaluations of owned products (Kahneman, Knetsch, and Thaler 1990, 1991). Yet little is known about whether and how differences in types of ownership influence predictions of the time or effort required to complete tasks (e.g., learn how to use a product), which has a demonstrated effect on consumers' commitment to complete the task at hand. Our research shows that, while product purchasers might feel greater motivation to hold on to their possessions (as established in the endowment effect literature), they will be less committed to learning the skills necessary to use them. Third, we advance social comparison research by revealing the impact of acquisition mode on how skilled novices believe other product users are, thereby influencing their own perceived relative ability and, consequently, estimations of the time or effort necessary to learn skills and perform specific tasks.

Overview of the Studies

We test our predictions across five studies. Study 1 tests the basic effect of acquisition mode on estimated speed of

product mastery following an actual product purchase versus rental. We then provide evidence for the role of social comparison processes in study 2 by testing if increased salience of experts versus novices among both renters and purchasers replicates the effect of acquisition mode on the speed of product mastery obtained in a control condition. In study 3, we examine the effect of acquisition mode on behavioral intentions and show that this relationship is sequentially mediated by product use commitment via speed of product mastery. Next, study 4 tests the effect of acquisition mode on actual consumer behavior (i.e., social media engagement), while further demonstrating the underlying process through moderation (Spencer, Zanna, and Fong 2005). Finally, in study 5 we investigate downstream consequences of acquisition mode on actual consumer behavior through secondary data we obtained from a music store.

We selected participants for each study that had little or no experience (i.e., novices) with their respective skill-based products (except for study 5, where we obtained secondary data for which we could not collect information about prior experience with the product). In doing so, we controlled for the possibility that estimations of the speed of product mastery, and consequently product usage commitment, were influenced by prior experiences with the product. Further, we measured the expected speed of product mastery by asking participants to make free-response predictions of the time (minutes, hours, or days, depending on the study) needed to learn how to use the product, under the premise that these measurements are more likely to capture biases from social comparison estimates effectively (Mussweiler, Rüter, and Epstude 2004). Since free-response measures are prone to include outliers, we applied a 90th percentile winsorizing process on this measure and all other free-response data in our studies (Cutright and Samper 2014; Tully and Meyvis 2016). Specifically, we replaced responses in the top 10% of each experimental condition with the 90th percentile response, which allowed us to reduce the power of outliers while eliminating the need to remove participants based on outlier responses.

STUDY 1

Study 1 had two goals. First, we tested if acquisition mode indeed impacts the expected speed of product mastery using a real acquisition context. Second, since financial investment is often linked to motivation (Giné, Karlan, and Zinman 2010), we sought to address possible confounds related to differences in perceived financial investment associated with purchasing versus renting a product by keeping constant the cost of each acquisition mode.

Method

In exchange for course credit, and as part of a larger data collection effort, 135 students from Grenoble Ecole de

Management (65.90% female; $M_{\text{age}} = 21.10$, $SD = 1.68$) participated in a study that consisted of a one-factor, two-level (acquisition mode: purchase vs. rental) between-subjects design predicting time to master a skill-based product. Upon arrival at the lab, participants were told that, in addition to course credit, they had received a €5 credit as a token of our appreciation, which they would be able to spend during a study session consisting of a series of unrelated experiments.

After completing two unrelated studies, participants were presented with a picture of two identical Mirror Cubes (a 3D combination puzzle similar to a Rubik's cube) from two fictitious brands, Mobza and Nazut. Participants in the purchase condition were then informed that they could purchase one of the cubes with their €5 credit, while those in the rental condition were told they could rent one of the cubes for a month with their €5 credit. All participants then indicated the cube of their choice and received it. Next, participants were asked to estimate the speed of product mastery by indicating how many hours and/or minutes of practice they thought it would take them to solve the cube, our main dependent variable (based on Mussweiler et al. 2004). Therefore, we operationalized product mastery in this study as solving the cubed puzzle. As a manipulation check, participants then marked whether they had purchased or rented the Mirror Cube. They next specified whether they had solved a Mirror Cube in the past, completed general demographic questions, and were debriefed and informed that they could keep the Mirror Cube, regardless of condition.

Results

One participant was not a novice, having solved a Mirror Cube in the past, and was consequently removed from the analysis. In addition, while indicating the expected speed of product mastery, 11 individuals (8.15%) entered an incoherent sequence of hours and minutes (e.g., 123 hours and 123 minutes; 5 hours and 25,000 minutes; 10 hours and 6,000 minutes; 10 hours and 600 minutes) and were also removed from the analysis since the expected speed of product mastery could not be accurately determined. We were therefore left with a sample of 123 participants (65.90% female; $M_{\text{age}} = 21.04$, $SD = 1.73$) for the remaining analyses. As expected, purchasers were more likely to indicate that they had purchased the Mirror Cube than were renters ($M = 95.08\%$ vs. 10.77% , respectively; $\chi^2(1) = 86.63$, $p < .001$), demonstrating that our acquisition mode manipulation was successful. Importantly, and as hypothesized, the winsorized expected speed of product mastery differed significantly between purchasers and renters. Specifically, purchasers ($M = 430.11$ minutes, $SD = 418.40$), relative to renters ($M = 251.44$ minutes, $SD = 185.34$), expected that it would take significantly longer to master the Mirror Cube ($t(121) = 3.05$, $p = .003$).

Discussion

Study 1 provided initial evidence in support of our prediction that purchasers expect that it will take longer to master a skill-based product than do renters using a real purchase or rental context, and controlling for financial investment associated with the two acquisition modes. One limitation of the current study, however, is that the expected timespan of product possession differed between renters and purchasers (i.e., purchasers expected to have the product indefinitely, whereas renters expected to have the product only for a month). We eliminated this potential confound in the remaining studies. Further, in the remaining studies we sought to elucidate why differences in acquisition mode are reflected in differences in the expected speed of product mastery.

STUDY 2

Study 2 sought to achieve two important objectives. First, according to our theory, acquisition mode leads to differences in the estimated amount of time needed to master a product because purchasers are more likely than renters to compare their abilities to the abilities of a highly skilled reference group (i.e., other purchasers). Therefore, one purpose of this study was to find support for this underlying process by increasing the salience of either experts or novices among participants before eliciting their estimated speed of product mastery. If the results from study 1 are indeed driven by differences in the perceived abilities of users salient among product purchasers versus renters, then making purchasers and renters both think of expert or novice users should mitigate the effect. Specifically, when forming estimates of the speed of product mastery, if purchasers are indeed likely to compare themselves to other purchasers, whom they perceived as more skilled (i.e., experts), and if renters are likely to compare themselves to other renters, whom they perceive as less skilled (i.e., novices), then making salient comparisons with a general group of expert (novice) users should result in estimates that mirror those of purchasers (renters) who do not have other users made salient. Second, study 2 sought to allay concerns about the potentially confounding effect that the length of time renters and purchasers expect they will possess a product could have on the estimated speed of product mastery, by holding constant the time period during which product mastery can be achieved—namely, the first day of practice. While using the period of 24 hours as an anchor likely reduces the effect of heuristics (e.g., acquisition mode) on judgment (Tversky and Kahneman 1974), we wanted to ensure that the results of study 1 replicate when we control for the time frame during which participants could master the product.

Method

In exchange for a small monetary compensation, 496 online participants (45.16% female; $M_{\text{age}} = 30.88$, $SD = 15.90$) recruited from Prolific Academic completed this study, which consisted of a 2 (acquisition mode: purchase vs. rental) \times 3 (salient comparison user: experts vs. novices vs. control) between-subjects design. Participants were told that they would complete a survey about their attitude toward a marketing scenario and were randomly assigned to one of six conditions. They first read the following scenario, which asked them to imagine either purchasing or renting an archery bow: “Imagine you decided to learn archery. You do not currently have a bow, so you go to a nearby sporting goods store to purchase (rent) one. After browsing through the store, you find the following compound bow and decide to purchase (rent) it. Compound bows are modern bows that use levering systems of cables and pulleys to bend the limbs.”

Next, all participants were asked to imagine that they had taken their bow out for their first day of practice. Participants in the control condition then continued to the next portion of the study. Those assigned to the expert salience condition read the following additional information: “As you arrive on the target field you see some people practicing archery. You notice that these people seem very experienced and are very good; their shots consistently hit the center of the target.” In contrast, those in the novice salience condition read: “As you arrive on the target field you see some people practicing archery. You notice that these people seem very inexperienced and are not very good; their shots consistently miss the target.”

To control for the effect of acquisition mode on possession time, as well as potential differences in learning goals between purchasers and renters, we specified the learning goal and restricted the learning period. Specifically, we first presented participants with a picture of the target and then assessed the speed of product mastery by asking them to indicate how many hours and/or minutes they thought it would take them to hit the center of the target during their first day of practice. Accordingly, product mastery was operationalized as hitting the center of the target, and the maximum timespan during which they could master the product was 24 hours. Finally, participants completed a manipulation check (i.e., marking whether they had purchased or rented the compound bow in the scenario), specified whether they had ever used a compound bow, and provided demographic information.

Results

Ninety-two participants (19.30% of our sample) had used a compound bow prior to the study. Per our established protocol, these participants, not being novices, were removed from the analysis. In addition, one of the key

purposes for this study was to hold the learning period constant between renters and purchasers by asking participants to estimate how many minutes during their first day of practice it would take to hit the center of the target. Accordingly, and following the protocol used for studies limiting learning time (i.e., studies 2 and 3), nineteen participants (4.5%) were excluded because they did not follow these instructions and reported estimations exceeding the 24 hour learning time period instructions (time expectations among deleted respondents: Min = 2,400 minutes (40 hours), Max = 60,060 minutes (1,001 hours), $M = 11,648$ minutes (~ 194 hours)). The final sample contained 384 participants (51.30% female; $M_{\text{age}} = 30.59$, $SD = 10.38$).

The manipulation of acquisition mode was again successful: purchasers (96.72%), relative to renters (4.48%), were more likely to indicate that they were instructed to imagine having purchased the bow ($\chi^2(1) = 326.34$; $p < .001$). Next, we conducted an ANOVA with the winsorized expected time to hit the center of the target as the dependent variable and acquisition mode, salient comparison user, and their interaction as independent variables. Results showed that the interaction between acquisition mode and salient comparison user on the speed of product mastery was marginally significant ($F(2, 378) = 2.62$, $p = .074$). No main effect of acquisition mode ($p = .156$) or salient comparison user ($p = .201$) was found. Planned contrasts revealed that, in the control condition, bow purchasers ($M = 257.87$ minutes, $SD = 240.04$) expected that it would take longer to hit the center of the target relative to renters ($M = 178.00$ minutes, $SD = 114.72$, $F(1, 378) = 6.81$, $p = .009$), which replicates our previous results. In contrast, and as predicted, there were no differences in the expected time to hit the center of the target according to acquisition mode when experts ($M_{\text{purchasers}} = 218.77$, $SD_{\text{purchasers}} = 175.26$; $M_{\text{renters}} = 228.53$, $SD_{\text{renters}} = 162.73$, $F(1, 378) = .01$, $p = .729$) or when novices ($M_{\text{purchasers}} = 190.07$, $SD_{\text{purchasers}} = 140.09$; $M_{\text{renters}} = 187.15$, $SD_{\text{renters}} = 140.92$, $F(1, 378) = .12$, $p = .923$) had been made salient as reference groups (see figure 1).¹

¹ We also analyzed the data including those participants who failed to follow the 24 hour learning time period instructions. We found a marginal main effect of acquisition mode ($p = .079$) and a significant main effect of salient comparison user ($p = .021$), while the interaction between acquisition mode and salient comparison user on the speed of product mastery was no longer significant ($F(2, 397) = 1.52$, $p = .219$). Importantly, however, planned contrasts revealed that in the control condition, bow purchasers ($M = 318.06$ minutes, $SD = 296.74$) expected that it would take longer to hit the center of the target relative to renters ($M = 242.89$ minutes, $SD = 114.72$, $F(1, 397) = 4.28$, $p = .039$). In contrast, and as predicted, there were no differences in the expected time to hit the center of the target according to acquisition mode when experts ($M_{\text{purchasers}} = 231.06$, $SD_{\text{purchasers}} = 187.29$; $M_{\text{renters}} = 241.84$, $SD_{\text{renters}} = 183.14$, $F(1, 397) = .10$, $p = .755$) or when novices ($M_{\text{purchasers}} = 231.06$, $SD_{\text{purchasers}} = 189.54$; $M_{\text{renters}} = 187.15$, $SD_{\text{renters}} = 140.92$, $F(1, 397) = 1.50$, $p = .222$) had been made salient as reference groups.

In addition, since our theory suggests that renters compare their abilities to the abilities of other novices (i.e., renters) and purchasers compare their abilities to the abilities of experts (i.e., purchasers) by default, reminding participants of novices should influence the expected speed of product mastery for purchasers but not renters. In contrast, reminding participants of expert users should influence the expected speed of product mastery for renters but not purchasers. As predicted, we found that, compared to those in the control condition, novice user salience impacted the expected speed of product mastery for purchasers ($M_{\text{novice salience}} = 190.07$, $SD_{\text{novice salience}} = 140.09$; $M_{\text{control}} = 257.87$, $SD_{\text{control}} = 240.04$, $F(2, 378) = 4.82$, $p = .029$) but had no significant impact for renters ($M_{\text{novice salience}} = 187.15$, $SD_{\text{novice salience}} = 140.92$; $M_{\text{control}} = 178.00$, $SD_{\text{control}} = 114.72$, $F(2, 378) = .09$, $p = .759$). In contrast, increasing the accessibility of expert users significantly impacted the expected speed of product mastery for renters ($M_{\text{expert salience}} = 228.53$, $SD_{\text{expert salience}} = 162.73$; $M_{\text{control}} = 178.00$, $SD_{\text{control}} = 114.72$, $F(2, 378) = 2.97$, $p = .086$), albeit only marginally so, but had no significant impact for purchasers ($M_{\text{expert salience}} = 218.77$, $SD_{\text{expert salience}} = 175.26$; $M_{\text{control}} = 257.87$, $SD_{\text{control}} = 240.04$, $F(2, 378) = 1.76$, $p = .186$).

Discussion

Study 2 found further support for our hypothesis that differences in perceived relative ability to use a skill-based product drive the impact of acquisition mode on the expected speed of product mastery. We tested this effect through moderation, examining if the effect of acquisition mode on the estimated time to master the product is diminished when expert or novice product users as comparison others are made salient. Further, we obtained these results while holding constant the time period available for product mastery. Thus, we have demonstrated in two studies the effect of acquisition mode on the speed-of-product-mastery expectations and provided evidence consistent with our proposition that this effect is driven by consumers' perceived ability relative to salient reference-group members.

In the remaining studies, we turned our attention to examining the effect of acquisition mode on meaningful downstream consumer consequences and the underlying process thereof. In particular, since a low (as opposed to high) estimated speed to learn the skills necessary to use a product is known to decrease commitment toward product use and (re)purchase (Bagozzi et al. 1992; Billeter et al. 2011), study 3 tested whether the negative effect of novice skill-based product purchases on the expected speed of product mastery would decrease commitment to using the product, which in turn should result in lower intentions to reacquire the product, a lower willingness to pay to

reacquire the product, and lower product category purchase intentions.

STUDY 3

Study 3 had two important objectives. First, we sought to examine the downstream consequences of purchase versus rental acquisition modes, as well as the underlying roles of expected speed of product mastery and use commitment. Second, we wanted to further control for potential confounds related to the different timespans over which purchasers and renters are in possession of their products. Specifically, we not only kept constant the timespan available for product mastery (as in study 2), but we also held constant the time period for which purchasers and renters possessed the product. We did so by informing participants that they had purchased, or rented, a one-month beta version of an online game (a common practice in the online game and software industry). As in study 1, participants were apprised that they had received a monetary credit to purchase (rent) the game. We predicted that product purchasers (vs. renters) would expect it to take longer to master the online game, consequently feeling less commitment to using the game and to reacquire the game or other options within the online game category.

Method

In exchange for a small monetary compensation, 130 US participants (30.80% female; $M_{\text{age}} = 31.80$, $SD = 8.82$) were recruited from Amazon Mechanical Turk (MTurk) for a study that consisted of a one-factor, two-level design (acquisition mode: purchase vs. rental). Participants were told that they had received a \$2 credit so that they could purchase (vs. rent) a one-month beta version of an online puzzle game called Calcudoku, a game similar to Sudoku that requires players to solve mathematical problems to fill in blank puzzle cells. They then clicked on a button labeled "Purchase (Rent) Calcudoku," accessed the game, and were given the opportunity to acquaint themselves with it by trying to solve a puzzle.

After participants had familiarized themselves with the game, they were asked to indicate their commitment to using the product by stating how many games they expected to play per week within the one-month period. To assess willingness to pay to reacquire the game after the one month of owning (renting) the product had ended, we asked them to mark down the maximum amount of money they would be willing to pay to own the game. As a measure of reacquisition intent, participants rated on four six-point semantic differential scales how likely it was that they would purchase (1 = highly unlikely, 6 = highly likely), how probable it was that they would purchase (1 = highly improbable, 6 = highly probable), how certain it was that they would purchase (1 = highly uncertain,

6 = highly certain), and what chance there was that they would buy (1 = no chance at all, 6 = very good chance) Calcudoku following their one month of owning (renting) the game (Chandran and Morwitz 2005). These items were averaged to form a reacquisition intention index ($\alpha = .92$). Lastly, to assess category purchase intentions, we showed participants a picture of another game within the same product category, Kakuro, and had them indicate their purchase intent for this game using the same scale used to measure reacquisition intent (Chandran and Morwitz 2005).

Participants then estimated their speed of product mastery by indicating how many minutes they thought it would take to solve a 4×4 puzzle during the one-month period. Thus, we operationalized product mastery in this study as solving a 4×4 puzzle and fixed the timespan during which product mastery could be achieved to a maximum of one month. Participants then completed a manipulation check as in the previous studies, specified whether they had played Calcudoku prior to taking the study, and answered general demographic questions. Finally, we debriefed participants about the real purpose of the study. We then provided a link to the game and informed them that, although no actual Calcudoku transaction took place, the game is free to play anytime online.

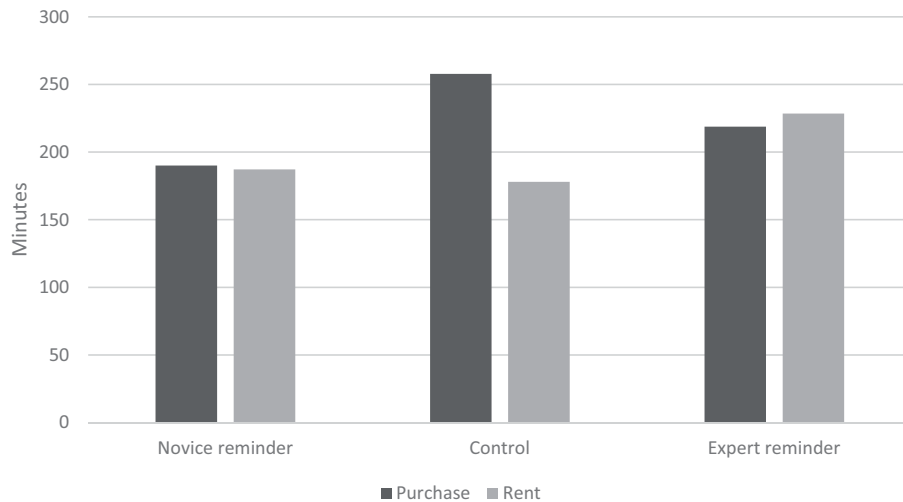
Results

Five participants who were not novices, having played Calcudoku prior to taking the study, were removed from the analyses. In addition, we removed two participants who estimated it would take zero hours and zero minutes to complete the puzzle. All participants reported speed-of-mastery estimations within the established one-month period; we were therefore left with a final sample of 123 participants (30.08% female; $M_{\text{age}} = 31.89$, $SD = 8.94$). As in prior studies, the manipulation of acquisition mode was successful (purchase = 65.57%; rental = 1.61%; $\chi^2(1) = 56.61$; $p < .001$).

Speed of Product Mastery and Downstream Measures. Consistent with our previous studies, purchasers (vs. renters) expected that it would take longer (i.e., more winsorized minutes) to master the product ($M_{\text{purchasers}} = 11.37$, $SD_{\text{purchasers}} = 11.29$; $M_{\text{renters}} = 6.20$, $SD_{\text{renters}} = 4.53$; $t(121) = 3.32$, $p = .001$). In addition, as predicted, purchasers ($M = 2.93$, $SD = 1.47$) were less committed to use the product than were renters, indicating that they would use the product less often (winsorized) per week ($M_{\text{purchasers}} = 2.79$, $SD_{\text{purchasers}} = 2.56$; $M_{\text{renters}} = 4.37$, $SD_{\text{renters}} = 3.96$; $t(121) = 2.64$, $p = .010$). Moreover, purchasers (vs. renters) expressed a lower winsorized willingness to pay to reacquire the product ($M_{\text{purchasers}} = \$.74$, $SD_{\text{purchasers}} = .82$; $M_{\text{renters}} = \$ 1.49$, $SD_{\text{renters}} = 1.47$; $t(121) = 3.53$, $p = .001$) and had a marginally lower reacquisition

FIGURE 1

STUDY 2: IMPACT OF ACQUISITION MODE AND SALIENCE OF COMPARISON USER ON EXPECTED SPEED OF PRODUCT MASTERY



intent ($M_{\text{purchasers}} = 1.91$, $SD_{\text{purchasers}} = 1.13$; $M_{\text{renters}} = 2.34$, $SD_{\text{renters}} = 1.30$; $t(121) = 1.95$, $p = .053$). Further, results revealed lower category purchase intentions among purchasers ($M = 1.78$, $SD = 1.02$) as compared to renters ($M = 2.20$, $SD = 1.25$; $t(121) = 2.05$, $p = .042$).

Mediation. We next tested whether speed of product mastery and product use commitment sequentially mediated the effect of acquisition mode on willingness to pay to reacquire the product, on product reacquisition intentions, and on category purchase intentions, by conducting three sequential mediation tests (acquisition mode \rightarrow product mastery expectations \rightarrow product use commitment \rightarrow meaningful downstream consequences) following the bootstrap procedure from Hayes (2013) (model 6; 10,000 bootstraps). Acquisition mode was coded as 1 for purchasers and 0 for renters.

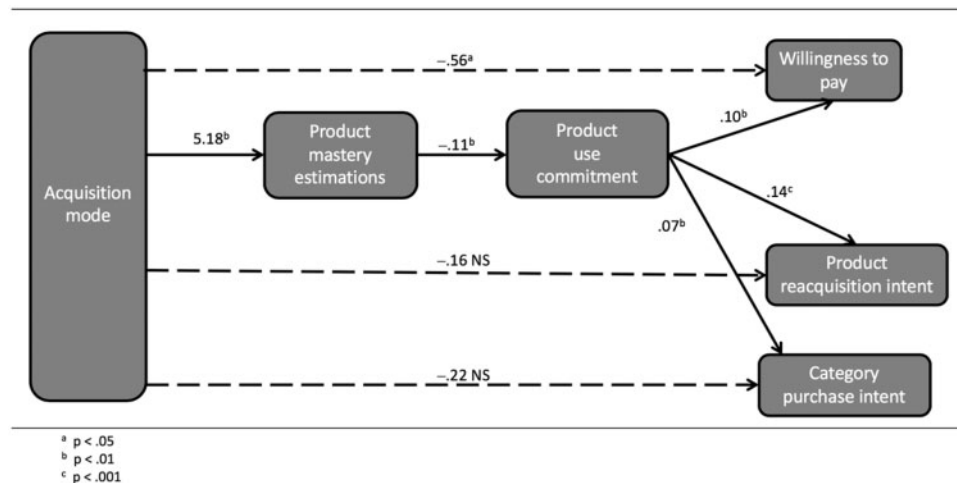
Analysis revealed, as mentioned above, that purchase acquisition mode increased the expected time required to master the product ($\beta = 5.18$, $t(121) = 3.34$, $p = .001$). Further, estimated speed of product mastery was negatively correlated with product use commitment ($\beta = -.11$, $t(121) = 3.17$, $p = .002$). Interestingly, when we controlled for speed-of-product-mastery expectations, acquisition mode had only a marginally significant effect on product use commitment ($\beta = -1.02$, $t(121) = 1.69$, $p = .094$), indicating that most of the effect of acquisition mode on use commitment is explained by variations in participants' estimation of time necessary to master the product. Further, when we controlled for acquisition mode and speed of product mastery, product use commitment had a

positive effect on willingness to pay to reacquire the product ($\beta = .10$, $t(121) = 3.22$, $p = .002$), product reacquisition intent ($\beta = .14$, $t(121) = 4.31$, $p < .001$), and category purchase intent ($\beta = .07$, $t(121) = 2.31$, $p = .023$). Speed-of-product-mastery expectations did not affect any of the downstream variables when we controlled for product use commitment and acquisition mode ($p_{\text{Willingness to Pay}} = .660$; $p_{\text{Reacquisition Intent}} = .465$; $p_{\text{Category Purchase Intent}} = .130$). Also interestingly, when we controlled for speed-of-product-mastery expectations and product use commitment, acquisition mode significantly influenced willingness to pay ($\beta = -.56$, $t(121) = 2.58$, $p = .011$), but not product reacquisition intent ($\beta = -.16$, $t(121) = -.76$, $p = .446$) or category purchase intent ($\beta = -.21$, $t(121) = -1.01$, $p = .316$).

Most importantly, estimations of the indirect paths of the sequential mediation revealed significant effects, with a 95% confidence interval (CI) excluding zero for willingness to pay to reacquire the product ($\beta = -.05$, $CI = [-.14, -.02]$), product reacquisition intent ($\beta = -.08$, $CI = [-.16, -.03]$), and category purchase intent ($\beta = -.04$, $CI = [-.10, -.01]$; see figure 2). We also reversed the order of the two intermediate variables to examine whether acquisition mode has a direct effect on product use commitment, influencing the expected speed of product mastery and then affecting the downstream variables. However, results of these models revealed only nonsignificant indirect effects, thus confirming that acquisition mode influences downstream consumer behavior because of product use commitment via expected speed of product mastery, and repudiates an alternative process

FIGURE 2

STUDY 3: THE EFFECTS OF ACQUISITION MODE ON WILLINGNESS TO PAY TO REACQUIRE, REACQUISITION INTENT, AND CATEGORY PURCHASE INTENT THROUGH EXPECTED SPEED OF PRODUCT MASTERY AND USE COMMITMENT



NOTE.—Acquisition mode is a dummy variable coded as 1 for purchasers and 0 for renters.

explanation that product use commitment influences product mastery estimations, thereby leading to downstream consumer behavior.

Discussion

Study 3 evinced that differences in expected speed of product mastery engendered by different acquisition modes have important downstream consequences because purchase (vs. rental) decreases product use commitment that, in turn, lowers willingness to pay, product reacquisition intent, and category purchase intent. These results also underscore the key role played by the expected time to master the product, as the effect of acquisition mode on product use commitment and downstream variables when we control for expected product mastery is generally weak or nonsignificant. In the next study, we further provided support for our framework by testing the role of two boundary conditions inspired by standard practices among skill-based products marketers (Bond 2017; Jig Thing 2018; Qualtrics 2018): anchoring the consumer's personal or the reference group's expected speed of product mastery.

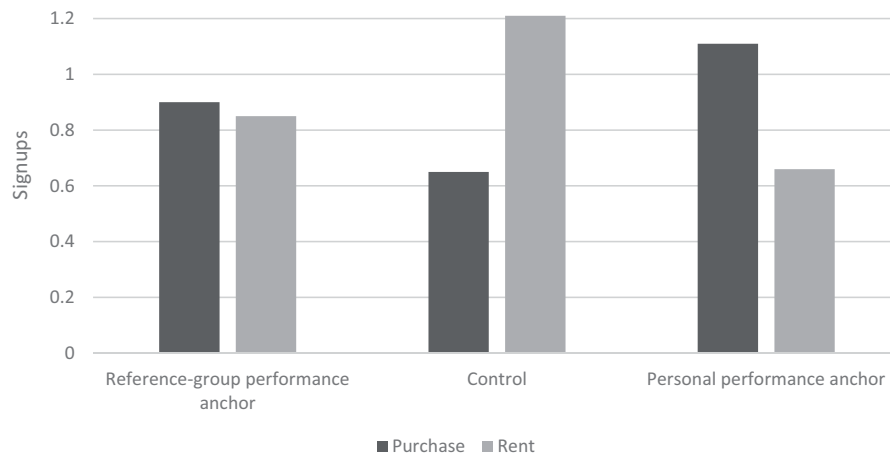
STUDY 4

Our basic outcome prediction hinges on the joint assertions that product purchasers (renters) recruit other purchasers (renters) as a reference group when forming their

speed-of-product-mastery expectations, and that referent purchasers (renters) are perceived to have high (low) ability. As a result, product purchasers estimate it will take longer to master the product than do renters and consequently have a lower commitment to using the product. While these assertions have been tested in our previous studies (study 2 and study 3), we designed study 4 to provide further evidence in support of our theorizing by examining substantive boundary conditions consistent with our theory. Specifically, if the effect of acquisition mode on consumer behavior arises because purchasers and renters recruit distinct reference groups that differ in their perceived ability, which in turn impacts participants' perceived ability relative to them, then the effect should be attenuated or eliminated if either a) we keep the reference groups' perceived ability constant (by explicitly providing participants with the same expected speed of product mastery for both reference groups, making it unnecessary for participants to rely on ability inferences based on the reference group's purchasers versus renters status), or b) we keep participants' own perceived ability constant in both acquisition-mode conditions (by explicitly providing them with their own expected speed of product mastery, making it unnecessary for them to rely on ability inferences relative to their recruited reference group). This type of anchoring is practiced among marketers through advertising and packaging messages of a variety of skill-based products (Bond 2017; Jig Thing 2018; Qualtrics 2018).

FIGURE 3

STUDY 4: IMPACT OF ACQUISITION MODE AND SPEED-OF-PRODUCT-MASTERY ANCHORS ON EXTENT OF SOCIAL MEDIA ENGAGEMENT



In sum, in testing these two managerially relevant boundary conditions, we are able to provide additional support for the mechanism driving differences in the behavior of purchasers and renters. Importantly, we examine the effect of acquisition mode on a further substantive and meaningful behavioral outcome in this study: the extent of social media engagement with the marketer of the product.

Method

In exchange for a small monetary compensation, 394 US participants (43.40% female; $M_{\text{age}} = 33.29$, $SD = 11.21$) were recruited from Prolific Academic in a study consisting of a 2 (acquisition mode: purchase vs. rental) \times 3 (speed-of-product-mastery anchor: personal vs. reference group vs. control) between-subjects design. The study design was nearly identical to that of study 3, in that participants were told that they had received a \$2 credit to purchase (vs. rent) a one-year beta version of an online Calcudoku game. Once they had pressed the “Purchase (Rent) Calcudoku,” button, they were given the opportunity to acquaint themselves with the game by trying to solve a puzzle.

Next, those in the personal-speed-of-product-mastery anchor condition were informed that, based on their performance in the last puzzle, we estimated it would take them approximately 10 minutes to complete a larger and more complex 5×5 puzzle. In contrast, those in the reference-group-speed-of-product-mastery anchor condition were apprised that past results had shown that it typically takes Calcudoku purchasers (renters) approximately

10 minutes to complete a larger and more complex 5×5 puzzle. We chose 10 minutes because it was the average time that participants in a pretest ($N = 50$) thought it should take for them to successfully complete a 5×5 puzzle after familiarizing themselves with the game without any acquisition information. Those in the control condition did not receive any speed-of-product-mastery information and moved directly on to the next part of the study.

Participants were then told that, with their permission, we could share their contact information (i.e., email and social media profile links) with the company that produced the game, so the company could sign them up for its email list, social media links, and future training sessions. Participants then chose whether to receive email updates for when the nonbeta version of the game was released, to find out when new and similar games were available to download, to receive discounts and promotions for future similar games, and to receive information about online events and games. They next chose whether to receive links to the company’s Facebook, Instagram, and Twitter accounts. Lastly, they chose whether to sign up for an online training session to improve their Calcudoku skills. In actuality, no participant-identifiable information was collected.

Participants then finished the study by answering general demographic questions, completing the manipulation check, indicating whether they had played Calcudoku in the past, and answering a suspicion probe question. Before terminating the online study, we debriefed participants using the same protocol as in study 3 and informed them that no personal information had been collected.

Results

Thirty-four participants (8.60%) who were not novices, having played Calcudoku prior to taking the study, were removed from the analyses. In addition, three participants mentioned in the suspicion probe that they had had difficulties loading the Calcudoku puzzle, and one respondent expressed awareness that participants were not in reality acquiring the product. These four participants were consequently removed from the analysis, leaving a final sample of 356 participants (42.7% female; $M_{\text{age}} = 33.12$, $SD = 11.19$). As in prior studies, the manipulation of acquisition mode was successful (purchase = 75.3%; rental = .50%; $\chi^2(1) = 214.83$, $p < .001$).

In order to obtain an overall behavioral measure for the extent of participants' social media engagement, we summed the total number of email notifications for which they had chosen to sign up, the number of social media links they had requested, and whether they signed up for the training session. This behavioral measure thus ranged from zero (no emails, social media, or training session sign-up) to eight (four email lists, three social media links, and one training session). We conducted an ANOVA with social media engagement as the dependent variable, and acquisition mode and speed-of-product-mastery anchor as fixed factors. As hypothesized, the interaction between acquisition mode and speed-of-product-mastery-anchor was significant ($F(2, 350) = 3.71$, $p = .026$). In addition, the main effects of acquisition mode ($F(1, 350) = .02$, $p = .901$) and speed-of-product-mastery-anchor estimate ($F(1, 350) = .05$, $p = .950$) were not significant. Planned contrasts of the interaction revealed that in the control condition, Calcudoku purchasers ($M = .65$, $SD = 1.03$) chose to engage with the marketer on social media less than did renters ($M = 1.21$, $SD = 1.59$; $F(1, 350) = 4.20$, $p = .041$), conceptually replicating the results from study 3. In contrast, and as predicted, there were no differences in social media engagement extent between acquisition modes when reference-group speed-of-product-mastery anchors were provided ($M_{\text{purchasers}} = .90$, $SD_{\text{purchasers}} = 1.51$; $M_{\text{renters}} = .85$, $SD_{\text{renters}} = 1.16$, $F(1, 350) = .04$, $p = .848$). Further, when personal speed-of-product-mastery anchors were provided, we found a marginally significant reversal effect of acquisition mode on social media engagement extent ($F(1, 350) = 3.18$, $p = .075$), such that Calcudoku purchasers ($M = 1.12$, $SD = 1.74$), in comparison to renters ($M = .66$, $SD = 1.31$), exhibited a greater extent of social media engagement (see figure 3).²

2 We also tested if acquisition mode and the speed-of-product-mastery anchor predicted whether any engagement request was made. To do so, we coded each response as 0 if no engagement requests were made and 1 if at least one request was made. Using this new measure as a binary dependent variable and performing logistic regression, we no longer find a significant interaction between acquisition mode and speed-of-product-mastery anchor ($\chi^2(2) = 2.62$, $p = .269$). This indicates that, while the interaction between acquisition mode and

Discussion

This study provided additional insight in three important ways. First and foremost, we established the effect of acquisition mode on substantive consumer behavior—namely, to what extent consumers are willing to engage with the company on social media. We found that skill-based product purchasers (vs. renters) chose to engage less on social media with the marketer in the absence of explicit speed-of-product-mastery information. Second, this study also helped validate the importance of the perceived skill level of reference groups on the influence of acquisition mode on consumer behavior. We found that when differences in the perceived speed of product mastery between renter and purchaser reference groups (i.e., other renters and purchasers) are negated through explicit anchoring, acquisition mode no longer predicted level of social media engagement. Put another way, when we held constant information about the reference-group skill level (by equalizing the expected speed of mastery of the average owner and renter), consumers used an identical reference point to estimate their own expected speed of mastery and, consequently, chose similar levels of social media engagement. Third, this study assisted in solidifying the importance of consumers' expected speed of product mastery through the effect of acquisition mode on commitment to using the product and other downstream consequences. Specifically, when participants could rely on objective information about the expected time it should take for them to learn the product, the detrimental effect of purchase on social media engagement was eliminated and, in fact, even reversed (albeit marginally). Although not hypothesized, this reversal underscores the importance of speed-of-mastery estimations on acquisition-mode effects. In other words, the reversal may have occurred since the fixed speed-of-product-mastery estimations presented to participants, which was determined based on a pretest with participants not exposed to acquisition-mode information, was likely more (less) optimistic than the original estimates of purchasers (renters), thus leading to increased (decreased) product use commitment among purchasers (renters).

This study provided, therefore, important evidence that acquisition mode significantly impacts subsequent consumer behavior, and established boundary conditions with significant substantive and theoretical implications. In the next study, we further expand the ecological validity of our findings by examining actual consumer transactions from a music store that sells and rents instruments. Further, we held constant in our previous studies financial investment because of its demonstrated influence on consumers' commitment to product use (Fishbach and Dhar 2005); in study 5, we test more directly the role of

speed-of-product-mastery anchor significantly predicted the extent to which participants were willing to engage, it did not predict whether renters and purchasers were willing to engage with the marketer.

financial investment by examining its potential interactive effect with acquisition mode.

STUDY 5

The main purpose of study 5 was to examine how actual skill-based product purchase and rental influence purchase of additional product accessories to the acquired product, as well as the likelihood of upgrading the acquired product. To that end, we obtained data from actual purchasers and renters of musical instruments from Summerhays Music, a music store located in Orem, Utah. Further, while we attempted to control for many of the differences that may exist between the purchasers and renters (i.e., income level, education, and household size), there was one difference between purchase and rental transactions that was of particular interest: the financial investment. This is because financial investment represents the amount of resources consumers dedicate to obtain the product, which serves as a reminder of their commitment toward the product and thus influences consumer commitment to using the product (Fishbach and Dhar 2005). Therefore, since we theorized (and demonstrated in study 3) that acquisition mode also affects product use commitment, we also examined whether acquisition mode and financial investment interacted to influence consumer behavior.

Method

Data for this field study were retrieved from the transaction history of the 535 customers who purchased ($N = 93$) or rented ($N = 442$) musical instruments from a music store in August 2016. The number of transactions involving the purchase of instrument accessories or equipment (e.g., carrying cases, strings, mouthpieces, reeds, drumsticks, bows, metronomes, cleaning equipment, oil) was recorded for each of these customers from the day they first acquired the instrument in August 2016, up to February 2018. Importantly, the music store offered its customers (both instrument purchasers and renters) an opportunity to use a portion of the money they initially spent on their instrument to upgrade their instrument to a more expensive and advanced instrument. Given that consumers who use their instrument more often and who successfully master it are more likely to upgrade their instrument to a more advanced one, we expected that purchasers (vs. renters) would be less likely to upgrade their instruments. Additionally, we also obtained the number of store visits during which at least one transaction occurred. These three measures—the number of instrument accessories acquired, the number of instrument upgrades, and the number of store visits—served as our dependent variables not only because they are directly influenced by consumers' product use commitment, but also because of their relevance to practitioners. We further obtained the price of the instrument initially

acquired in August 2016. This measure was collected to help control for instrument class and for whether the instrument was for beginner or advanced musicians. Similarly, we measured financial investment by estimating the number of dollars instrument purchasers and renters had spent to acquire the instrument. For purchasers, this measurement was simply the instrument price. For renters, on the other hand, this measurement was the monthly renting fee multiplied by the number of months (including the first month) from the time they acquired the instrument until the end of the data collection period (i.e., rental fee \times 19). Due to the similarity of the measures for instrument price and financial investment (i.e., these two measures are identical for purchasers), we sought to resolve issues dealing with multicollinearity by including these measurements in two separate statistical models rather than a single model.

We also collected several covariates. Specifically, we coded the type of instrument acquired (e.g., violin, trumpet, cello, trombone), the number of products purchased during the initial acquisition (to control for any potential instrument accessory stockpiling), and whether each customer had shopped at the store prior to the instrument acquisition (to help control for prior experience, shopping habits, or stockpiling). Further, since participants were not randomly assigned to an acquisition-mode condition, we controlled for the potential confounding effects of demographic characteristics using average household income and size, and percentage of bachelor's degree holders of each customer's zip code of residence.

Results

Effect of Acquisition Mode on Store Visits. We ran a Generalized Linear Model with Poisson distribution and log link (Dobson and Barnett 2008; McCullagh and Nelder 1989) that included the number of store visits between initial acquisition of the instrument from August, 1, 2016, to February 28, 2018 ($M = .92$ visits; $\text{Min} = 0$, $\text{Max} = 11$) as the dependent variable and acquisition mode (rent = 0, purchase = 1) as the independent variable. The model was estimated using the lme4 statistical package for R (Bates et al. 2014; R Core Development Team 2011). We controlled for unobserved differences between acquirers of different musical instruments by treating instrument type as a random effect (results are equivalent when we do not control for instrument type or treat it as a fixed effect instead). The covariates were included stepwise, to make sure that they did not influence the key hypothesized effect. Price of product was log-transformed because it presented a right-skewness (skewness = 5.90, kurtosis = 50.31). A VIF test revealed that multicollinearity was not a concern (highest VIF was 1.94). Results of the full model showed, as predicted, that purchasing versus renting the music instrument decreased the number of subsequent store visits ($M_{\text{Purchasers}} = .73$ vs. $M_{\text{Renters}} = .96$; $\beta = -.46$, $z = -3.22$, $p = .001$).

Among the covariates, we found significant effects of whether the customer had shopped at the store in the past, average income within zip code, and percentage of bachelor's degree holders within zip code, as well as marginally significant effects of the number of products purchased during the initial transaction and average household size within zip code (see table 1 for detailed results). Results are nearly identical when we replace product price with financial investment (log-transformed) and are similar when we rerun the analysis without covariates (see table 1 for detailed results).

Effect of Acquisition Mode on Purchase of Product Accessories. We ran identical Generalized Linear Models with Poisson distribution and log link, but with the number of product accessories purchased through subsequent transactions ($M = 1.09$ accessories; $\text{Min} = 0$, $\text{Max} = 25$) included as the dependent variable. A VIF test, once again, revealed no multicollinearity within the full model (highest VIF was 1.89). Consistent with the findings for number of store visits, we found that the purchase versus rental of the musical instrument decreased the number of subsequent product accessories acquired ($M_{\text{Purchasers}} = .81$ vs. $M_{\text{Renters}} = 1.14$; $\beta = -.70$, $z = -5.12$, $p < .001$). Results also revealed significant covariate effects of the number of products purchased during the initial transaction, whether the customer had shopped at the store in the past, average income and household size within consumers' zip code, and percentage of bachelor's degree holders within the zip code (see table 1 for details). Results of the reduced model (including only acquisition mode as a predictor) and the model replacing instrument price with financial investment rendered similar results (see table 1 for detailed results).

Effect of Acquisition Mode on Instrument Upgrades. We ran again identical Generalized Linear Models with Poisson distribution and log link, but with the number of instrument upgrades as the dependent variable. Customers, on average, upgraded their instrument .13 ($\text{Min} = 0$, $\text{Max} = 3$) times. A VIF test, once again, revealed no multicollinearity within the model (highest VIF was 1.92). Similar to the prior two analyses, we found that the purchase versus rental of the musical instrument decreased the number of instrument upgrades ($M_{\text{Purchasers}} = .04$ vs. $M_{\text{Renters}} = .15$; $\beta = -1.25$, $z = -2.38$, $p = .017$). None of the included covariates significantly predicted the number of instrument upgrades. Results of the reduced model (including only acquisition mode as a predictor) and a model replacing instrument price with financial investment were similar (see table 1 for details).

Interaction of Acquisition Mode and Instrument Price on Downstream Behavior. We next tested for the potential moderating effect of instrument price. We again used Generalized Linear Models with Poisson distribution and log link, but with acquisition mode, instrument price

(log-transformed) and their interaction as independent variables. The same covariates as before were included stepwise. We tested this model on our three dependent variables and found main effects of acquisition mode ($\beta_{\text{Store Visits}} = -.46$, $z = -3.21$, $p_{\text{Store Visits}} = .001$; $\beta_{\text{Instrument Accessories}} = -.71$, $z = -5.06$, $p_{\text{Instrument Accessories}} < .001$; $\beta_{\text{Instrument Upgrades}} = -1.34$, $z = -2.36$, $p_{\text{Instrument Upgrades}} = .019$) but no significant main effects of instrument price ($p_{\text{Store Visits}} = .622$; $p_{\text{Instrument Accessories}} = .875$; $p_{\text{Instrument Upgrades}} = .196$) and, importantly, no significant acquisition mode \times instrument price interactions ($p_{\text{Store Visits}} = .637$; $p_{\text{Instrument Accessories}} = .851$; $p_{\text{Instrument Upgrades}} = .198$). Covariate results were similar whether or not the acquisition mode \times instrument price interaction was included (see table 1 for more details).

Discussion

Study 5 complemented our previous set of studies in two important ways. First, it established the effect of acquisition mode on consumer behavior in an uncontrolled field setting. We found that product purchasers (vs. renters) are less engaged with the product and the company they acquired the product from, as evinced by fewer return visits to the store, fewer accessories purchased, and a lower likelihood to upgrade the instrument following the initial acquisition. These results are consistent with our proposition that purchase engenders lower commitment to using the acquired products. Second, this study established the pervasiveness of acquisition mode on consumer behavior. Specifically, although financial investment has an established influence on consumers' commitment to product use (Fishbach and Dhar 2005), it did not moderate the effect of acquisition mode on the number of visits to the store, purchase of accessories, or instrument upgrade during a period of 18 months following the initial product acquisition. In other words, independent of the level of commitment to using the product induced by the consumers' financial investment, acquisition mode significantly influenced consumer behavior.

As common in field studies, which establish the importance of an effect in a field setting yet lack experimentally controlled settings, alternative explanations for the effect may arise. Although the experimental designs of studies 1 through 4 cast doubt on the majority of these explanations, we next directly address a number of possible limitations. First, one may suggest that renters are less experienced than purchasers and may, therefore, need to acquire more instrument accessories. While this may be true, we find that purchasers acquired more accessories in the initial purchase than did renters ($M_{\text{Purchasers}} = .76$ vs. $M_{\text{Renters}} = .37$; $\beta = .52$, $z = 3.12$, $p = .002$). Our primary interest, however, was to estimate whether purchasers or renters were more likely to continue using their instrument post-acquisition. We observed this by analyzing which group

TABLE 1
STUDY 5: IMPACT OF ACQUISITION MODE ON SUBSEQUENT CONSUMER BEHAVIOR

Measures	Store visits (reduced model)	Store visits (full model)	Store visits (financial investment model)	Store visits (interaction model)	Instrument accessories (reduced model)	Instrument accessories (full model)	Instrument accessories (financial investment model)	Instrument accessories (interaction model)	Instrument upgrades (reduced model)	Instrument upgrades (full model)	Instrument upgrades (financial investment model)	Instrument upgrades (interaction model)
Intercept	-.31 (.12) ^b	6.06 (2.39) ^a	5.96 (2.39) ^a	6.09 (2.39) ^a	-.22 (.12)	9.78 (2.20) ^c	6.76 (1.93) ^c	9.76 (2.20) ^c	-3.15 (.50) ^c	-5.09 (6.55)	-4.48 (6.58)	-5.11 (6.51)
Acquisition mode	-.27 (.13) ^a	-.46 (1.4) ^b	-.51 (.15) ^c	-.46 (1.4) ^b	-.35 (.12) ^b	-.70 (.14) ^c	-.62 (.13) ^c	-.71 (.14) ^c	-1.25 (.52) ^a	-1.25 (.53) ^a	-1.16 (.53) ^a	-1.33 (.57) ^a
log(instrument price)	—	-.03 (.11)	—	-.07 (.15)	—	.01 (.11)	—	.02 (.14)	—	-.10 (.29)	—	-.69 (.53)
Acquisition mode × log(instrument price)	—	—	—	.08 (.17)	—	—	—	-.03 (.16)	—	—	—	.74 (.58)
log(financial investment)	—	—	.06 (.08)	—	—	—	.09 (.06)	—	—	—	-.16 (.13)	—
Number of items obtained during initial acquisition	—	.09 (.05)	.08 (.05)	.09 (.05)	—	.19 (.04) ^c	.14 (.04) ^c	.19 (.04) ^c	—	-.11 (.17)	-.11 (.16)	-.11 (.17)
Whether customer was new or existing	—	.71 (.10) ^c	.71 (.10) ^c	.71 (.10) ^c	—	.92 (.09) ^c	.79 (.08) ^c	.92 (.09) ^c	—	.31 (.25)	.30 (.24)	.29 (.25)
Log(avg. income within zip code)	—	-.77 (.25) ^b	-.76 (.25) ^b	-.77 (.25) ^b	—	-.13 (.24) ^c	-.76 (.21) ^c	-.13 (.23) ^c	—	.06 (.69)	.0004 (.69)	.06 (.68)
Avg. household size within zip code	—	.37 (.20)	.37 (.20)	.37 (.20)	—	.37 (.19) ^a	.21 (.16)	.37 (.19) ^a	—	.35 (.47)	.39 (.47)	.34 (.47)
Percentage of bachelor's degree holders within zip code	—	2.28 (.68) ^c	2.24 (.68) ^c	2.28 (.68) ^c	—	3.15 (.67) ^c	2.55 (.56) ^c	3.14 (.66) ^c	—	.10 (1.63)	.10 (1.63)	.11 (1.62)

NOTE.—Coefficients presented with standard errors in parentheses.

^a $p < .05$.

^b $p < .01$.

^c $p < .001$.

was more likely to replenish or replace their accessories (i.e., reeds, strings, oil, cleaning equipment), as would be common for practicing musicians. We found this effect to be significant even after statistically controlling for the number of instrument accessories purchased during the initial acquisition of the instrument.

Second, one may argue that it was less costly for renters to upgrade their instrument than for purchasers. However, for this particular music store, according to store policy, a proportion of the amount spent on the originally acquired instrument is applied to the acquisition cost of the new instrument, regardless of whether the original instrument was rented or purchased.

Third, one may suggest that purchasers may be less likely than renters to return to the store because of higher sunk costs inherent in the initial transaction. While we cannot fully control for this alternative explanation, we did test and control for the instrument's financial investment and found that it neither predicts any of the behaviors measured in the study nor alters the effect of acquisition mode on consumer behavior.

GENERAL DISCUSSION

Across five studies, we demonstrated that purchasing, compared to renting, a skill-based product increases the expected time necessary to master it, which, consequently, decreases product use commitment and negatively influences consumer behavior. In particular, our studies found that compared to those who rent a skill-based product, those who purchase it expect that it will take longer for them to master the skills associated with it (studies 1, 2, and 3). Most importantly, we found that purchasing decreases the likelihood that a novice will use the product (study 3), the willingness to pay to reacquire the product (study 3), the level of engagement with the product or with the company from which the product was acquired (studies 3, 4, and 5), the likelihood of purchasing similar products or product accessories (studies 3 and 5), and the likelihood of upgrading the acquired product (study 5). This effect appears to be robust across a variety of products and extends to both scenario-based (study 2) and actual purchase or rental transactions (studies 1, 3, 4, and 5), studies conducted in a lab (study 1), online (studies 2, 3, and 4), and in the field (study 5). In addition, this effect persisted while we held constant the financial investment (studies 1, 3, and 4), the time period during which product mastery can be achieved (studies 2, 3, and 4), and the timespan of product possession (studies 3 and 4) between purchasers and renters. We also provided evidence that this effect is explained by the perceived expertise or skill level of salient reference groups and the consumer's perceived relative ability to use a product (studies 2 and 4), and is mitigated by increasing the salience of other expert or novice product users (study

2), by holding constant the expected time to learn the product (study 4), or by equalizing the perceived abilities of the reference group (study 4).

Theoretical Contributions

Ownership. Our findings contribute to the ownership literature by examining how acquisition mode (e.g., purchasing vs. renting), through its impact on comparison others' perceived abilities, affects estimations of the speed of product mastery, one's likelihood of using the product, purchasing complementary products and accessories, upgrading the acquired product, and engaging with the product distributor after the acquisition. While extant work on ownership has focused on how ownership influences perceptions of the product or of the self, we examined how ownership influences the perceptions of other product users and the behavior that follows from these judgments. To our knowledge, this is the first attempt in the consumer psychology literature to examine how purchasing impacts the perceived expertise of others.

Additionally, our results provide evidence supporting a counterintuitive negative effect of purchase on attitudes and behavior toward products, which provides a unique complement to prior findings within the ownership literature. While it has been shown that ownership increases the perceived value of non-skill-based products (i.e., the endowment effect, [Kahneman, Knetsch, and Thaler 1990, 1991](#)), we found the opposite effect for purchasers of new, unmastered, skill-based products. That is, we demonstrated that novice purchasers, as opposed to renters, of the skill-based products in our studies are less committed to product use, have lower willingness to pay to reacquire the product, engage less with the product brand or with the company they acquired the product from, and purchase fewer similar products or product accessories.

One might argue that because purchasers, compared to renters, generally have a higher preacquisition commitment, as evidenced in their greater financial investment, they should also exhibit a greater post-acquisition commitment. While we concur that at least some prepurchase commitment should spill over to post-purchase behavior, it is important to note that extant evidence has established that important differences exist between pre- and post-purchase attitudes and judgments ([Gardial et al. 1994; Hamilton and Thompson 2007; Thompson et al. 2005](#)) and, more specifically, that judgments in perceived ability can change after product use ([Billeter et al. 2011](#)). Findings from this line of research show that pre- and post-purchase judgments are not merely additive, but rather represent shifts in mindsets, with consumers changing the attributes and pieces of information they rely on when forming judgments. Therefore, although many factors may underlie the consumers' commitment prepurchase, it is possible that their commitment levels post-purchase rely on other pieces

of information, or the same information interpreted differently. Still, future research should examine more closely the temporal dynamics of pre- and post-purchase commitment to product use.

Further, based on previous ownership literature, one may expect that purchasing versus renting may not only increase product value perceptions but also enhance product learning expectations. Indeed, prior research has shown that product ownership increases the likelihood that consumers will assimilate their own traits with product traits (Weiss and Johar 2013, 2016) and that reminders of ownership over already mastered skill-based products boost predicted and actual performance on product-related tasks (Chung and Johar 2015). Our research adds to this literature by demonstrating that, for unmastered skill-based products, these positive biases of ownership are unlikely to take place, since novice users of skill-based products have yet to gain experience with using their products. We instead find that purchases of such products may decrease perceptions of relative ability and, consequently, future performance expectations (i.e., the expected time required to master the product). We therefore contribute to the ownership literature by establishing that, while purchasing new products may increase perceived ability among average and expert users of products, it may have detrimental effects in the predicted time to learn a product among novice users.

Social Comparison. We contribute to the social comparison literature by demonstrating that purchasing is likely to decrease one's perceived relative ability and future performance expectations. Indeed, while priming task difficulty or expertise of others has been shown to impact perceived relative abilities and even purchase intentions of skill-based products (Burson 2007; Gershoff and Burson 2011), no prior research has heretofore considered the inverse effect of skill-based product purchase on perceived relative ability. We thus introduce skill-based product purchase among novice users, a common phenomenon in the marketplace, as one determinant of perceived relative ability.

Our research findings also add important insights to the social comparison and relative ability literature by showing that novice skill-based product purchases, in contrast to rentals, increase the likelihood that consumers will include more highly skilled individuals (i.e., other product owners) in social comparison estimates. According to Festinger's (1954) classic work, people are more likely to socially compare themselves with individuals that are believed to have similar opinions or abilities. While this line of research has explored how relative skill differences within existing reference groups impact performance estimations (Alicke et al. 2010; Huguet et al. 2009; Marsh and Parker 1984), it was unclear whether consumers would spontaneously include themselves within a group that has similar

interests but that is also perceived to have far greater performance abilities than their own. Our findings complement this literature by presenting an interesting case in which a consumer's ownership status is perceived to be similar to another group of individuals (i.e., existing owners) yet perceived ability (i.e., expertise) between the consumer and group differ drastically.

Consumer Motivation. Prior research on motivation has demonstrated how product ownership influences consumers' motivation to keep products and consequently their product evaluations (i.e., the endowment effect; Dommer and Swaminathan 2013; Dommer et al. 2013; Strahilevitz and Loewenstein 1998). This research has paid less attention, however, to the effect of product ownership on consumers' commitment to learning skills necessary to use such products. Our findings add to this existing research by showing that ownership may have a detrimental effect on consumers' commitment to learning the skills necessary to use the products. Thus, while owners might love their skill-based products, our work shows that they may not necessarily feel committed to learning the skills necessary to use them. In other words, product purchasers might keep filling their storage units with products they will never learn how to use—or become part of the large group of consumers who return these products to the store as “defective.”

Practical Implications

The findings reported here have potential substantive implications for both skill-based product managers as well as consumers interested in obtaining skill-based products that they have yet to master. First, slow (as opposed to fast) speed-of-mastery expectations have been shown to decrease intentions to buy and use a product (Bagozzi et al. 1992; Billeter et al. 2011), the perceived utility derived from the product (Chan and Storey 1996), feelings of self-efficacy (Bandura 1986; Dahl and Moreau 2007), and post-purchase satisfaction (Thompson, Hamilton, and Rust 2005), which in turn often lead to weaker intentions for reacquisition and the spreading of word of mouth (Gupta and Kim 2007; Wangenheim and Bayón 2007). The current research echoes some of these findings by showing that the decrease in the expected speed of mastery engendered by purchasing decreases commitment to product use, thereby decreasing the likelihood a consumer will use the product, engage with the product brand or distributor, and purchase similar products or product accessories. Instead of purchasing unmastered products, many consumers try them out before purchasing by renting, leasing, borrowing, and/or participating in in-store trials and free-trial offers. Our findings suggest that when dealing with novice customers, skill-based product managers may increase the likelihood that new customers will return to the store by taking

advantage of and promoting these nonpurchase forms of product use.

Second, our findings suggest that when consumers begin their journey of skill-based product mastery, they may benefit from nonpurchase forms of product usage to increase their perceived utility, satisfaction, and self-efficacy toward product usage, thereby increasing the amount of time they end up using the product and perhaps the likelihood that they will actually master it. In fact, new services have recently appeared that allow consumers such opportunities. For example, Grover (getgrover.com) enables consumers to rent high-tech products on a monthly basis and, if they decide to keep the product, allows them to deduct the amount spent on the rental from the purchase.

Third, our findings are particularly important since they are contrary to consumer lay beliefs. Indeed, a pretest revealed that there exists an overwhelming lay belief that owning a product has a positive impact on a learner's personal performance expectations. To measure this lay belief, we asked 53 nonsurfers (30.47% female; $M_{\text{age}} = 31.80$, $SD = 8.82$) in a survey conducted on MTurk whether buyers or renters would be more confident in their ability to learn a new product (a surfboard). Participants were asked to indicate whether they thought buyers would be more confident, renters would be more confident, or there would be no difference between the two groups. Results showed that only 1.90% of participants indicated that renters would be more confident in learning to use a new product, whereas 35.80% of the participants were indifferent and 62.30% believed buyers would be more confident ($\chi^2(2) = 29.13$, $p < .001$). Therefore, in an attempt to gain product usage confidence, novice consumers are likely to purchase skill-based products, which, based on our findings, may actually be self-defeating.

Of course, there may be times when opportunities for nonpurchase forms of skill-based product usage are difficult for companies to provide or for consumers to find. In these types of situations, when nonpurchase forms of product use are unavailable, our findings suggest that skill-based product managers may be able to help inexperienced customers overcome purchasing's prolonging impact on the estimated time to learn by reminding them of other inexperienced product users, thereby increasing their perceived relative ability to use the product and decreasing the expected time they think it will take to master the product. Companies may do this by informing customers of web pages and online forums dedicated to inexperienced users, creating product versions for novice users (beginner vs. advanced versions), or highlighting the features of the product that are easy to learn (Burson 2007). Simply reminding novices that there are others beginning the learning process should boost their perceived relative ability to use the product and help minimize the lengthening impact of purchasing on the expected time to learn a product. In addition, consumers could use a similar strategy by connecting with

other novice users through online forums, web pages, or classes. Further, companies could circumvent the adverse effects of purchasing on subsequent behavior by providing customers the estimated amount of time it takes the typical purchaser to learn to use the product. Based on our findings, pursuing this strategy should help anchor a novice's expectations on his or her reference-group abilities. Companies could act on this knowledge by adding the typical learning time to product packaging or incorporating the information in sales presentations.

Limitations and Future Directions

Some limitations of the present research reveal opportunities for future research. In our work, we examine how purchasing unmastered skill-based products impacts the amount of time product users expect it will take to master the product, but it is still unclear how purchasing might impact similar estimations among experienced product users. Although experienced product users are likely to have mastered the basic skills to use the product, they might seek to improve their ability by setting more challenging learning goals. Future research could test whether our effect replicates among expert users trying to achieve these learning goals. Perhaps, since experienced product users are better at estimating future performance, differences in acquisition mode would have little effect on personal performance expectations. On the other hand, purchasing may also serve as a reminder that an expert user is relatively more skilled than most, thereby creating more positive expectations of future performance.

It may also be beneficial to test whether the effects of skill-based product acquisition mode on the expected speed of product mastery are consistent with products that have just been introduced to the market. Since the initial customers of newly introduced products would all be considered beginners, even if novice product purchasers based their personal performance expectations on existing owners, they would be comparing themselves only to fellow novices. It is therefore unlikely that our effect would be observed among products newly introduced into the market.

DATA COLLECTION INFORMATION

The first author collected data for studies 1 (spring 2016 at Grenoble Ecole de Management), 2 (spring 2016 through Prolific Academic), 3 (summer 2016 through MTurk), and 4 (winter 2017 through Prolific Academic), and obtained the data for study 5 from Summerhays Music (Orem, Utah) with help from research assistants (spring 2018). The data for all studies were analyzed by the first author with support from the second author.

REFERENCES

- Alicke, Mark D., Ethan Zell, and Dorian L. Bloom (2010), "Mere Categorization and the Frog-Pond Effect," *Psychological Science*, 21 (2), 174–7.
- Bagozzi, Richard P., Fred D. Davis, and Paul R. Warshaw (1992), "Development and Test of a Theory of Technological Learning and Usage," *Human Relations*, 45 (7), 659–86.
- Bagozzi, Richard P. and Paul R. Warshaw (1990), "Trying to Consume," *Journal of Consumer Research*, 17 (2), 127–40.
- Bandura, Albert (1997), *Self-Efficacy: The Exercise of Control*, New York: Freeman.
- (1986), "The Explanatory and Predictive Scope of Self-Efficacy Theory," *Journal of Social and Clinical Psychology*, 4 (3), 359–73.
- Bandura, Albert and Forest J. Jourden (1991), "Self-Regulatory Mechanisms Governing the Impact of Social Comparison on Complex Decision Making," *Journal of Personality and Social Psychology*, 60 (6), 941–51.
- Bardhi, Fleura and Giana M. Eckhardt (2012), "Access-Based Consumption: The Case of Car Sharing," *Journal of Consumer Research*, 39 (4), 881–98.
- Bates, Douglas, Martin Mächler, Ben M. Bolker, and Steven C. Walker (2014), "lme4: Linear Mixed-Effects Models Using Eigen and S4," (R package version 1.1–7), <http://CRAN.R-project.org/package=lme4>.
- Bearden, William O., Richard G. Netemeyer, and Jesse E. Teel (1989), "Measurement of Consumer Susceptibility to Interpersonal Influence," *Journal of Consumer Research*, 15 (4), 473–81.
- Berger, Jonah and Chip Heath (2008), "Who Drives Divergence? Identity Signaling, Outgroup Dissimilarity, and the Abandonment of Cultural Tastes," *Journal of Personality and Social Psychology*, 95 (3), 593–607.
- Berger, Jonah and Morgan Ward (2010), "Subtle Signals of Inconspicuous Consumption," *Journal of Consumer Research*, 37 (4), 555–69.
- Biernat, Monica, Melvin Manis, and Thomas E. Nelson (1991), "Stereotypes and Standards of Judgment," *Journal of Personality and Social Psychology*, 60 (4), 485–99.
- Billeter, Darron, Ajay Kalra, and George Loewenstein (2011), "Underpredicting Learning after Initial Experience with a Product," *Journal of Consumer Research*, 37 (5), 723–36.
- Bond, Chris (2017), "How Long Does It Take to Learn to Surf?" *Ticket to Ride*, <https://www.tickettoridegroup.com/blog/how-long-does-it-take-to-learn-to-surf/>.
- Burson, Katherine A. (2007), "Consumer-Product Skill Matching: The Effects of Difficulty on Relative Self-Assessment and Choice," *Journal of Consumer Research*, 34 (1), 104–10.
- Chan, Yolande E. and Veda C. Storey (1996), "The Use of Spreadsheets in Organizations: Determinants and Consequences," *Information & Management*, 31 (3), 119–34.
- Chandran, Sucharita and Vicki G. Morwitz (2005), "Effects of Participative Pricing on Consumers' Cognitions and Actions: A Goal Theoretic," *Journal of Consumer Research*, 32 (2), 249–59.
- Chung, Jaeyeon and Gita V. Johar (2015), "The Consequences of Product Ownership: Performance Handicap in a Product-Unrelated Task," in *NA—Advances in Consumer Research*, Vol. 43, ed. Kristin Diehl and Carolyn Yoon, Duluth, MN: Association for Consumer Research, 44.
- Critcher, Clayton R. and Emily L. Rosenzweig (2014), "The Performance Heuristic: A Misguided Reliance on past Success When Predicting Prospects for Improvement," *Journal of Experimental Psychology*, 143 (2), 480–5.
- Crocker, Jennifer and Brenda Major (1989), "Social Stigma and Self-Esteem: The Self-Protective Properties of Stigma," *Psychological Review*, 96 (4), 608–30.
- Csikszentmihalyi, Mihaly (2000), "The Costs and Benefits of Consuming," *Journal of Consumer Research*, 27 (2), 267–72.
- Cutright, Keisha M. and Adriana Samper (2014), "Doing It the Hard Way: How Low Control Drives Preferences for High-Effort Products and Services," *Journal of Consumer Research*, 41 (3), 730–45.
- Dahl, Darren W. and C. Page Moreau (2007), "Thinking inside the Box: Why Consumers Enjoy Constrained Creative Experiences," *Journal of Marketing Research*, 44 (3), 357–69.
- Dobson, Annette J. and Adrian Barnett (2008), *An Introduction to Generalized Linear Models*, Boca Raton, FL: CRC Press.
- Dommer, Sara Loughran and Vanitha Swaminathan (2013), "Explaining the Endowment Effect through Ownership: The Role of Identity, Gender, and Self-Threat," *Journal of Consumer Research*, 39 (5), 1034–50.
- Dommer, Sara Loughran, Vanitha Swaminathan, and Rohini Ahluwalia (2013), "Using Differentiated Brands to Deflect Exclusion and Protect Inclusion: The Moderating Role of Self-Esteem on Attachment to Differentiated Brands," *Journal of Consumer Research*, 40 (4), 657–75.
- Dreyfus, P. (1983), "For Rent: Everything," *Money*, (June), 139–42.
- Durgee, Jeffrey F. and Gina Colarelli O'Connor (1995), "An Exploration into Renting as Consumption Behavior," *Psychology & Marketing*, 12 (2), 89–104.
- Escalas, Jennifer Edson and James R. Bettman (2003), "You Are What They Eat: The Influence of Reference Groups on Consumers' Connections to Brands," *Journal of Consumer Psychology*, 13 (3), 339–48.
- Festinger, Leon (1954), "A Theory of Social Comparison Processes," *Human Relations*, 7 (2), 117–40.
- Fishbach, Ayelet and Ravi Dhar (2005), "Goals as Excuses or Guides: The Liberating Effect of Perceived Goal Progress on Choice," *Journal of Consumer Research*, 32 (3), 370–7.
- Gardial, Sarah Fisher, D. Scott Clemons, Robert B. Woodruff, David W. Schumann, and Mary Jane Burns (1994), "Comparing Consumers' Recall of Prepurchase and Postpurchase Product Evaluation Experiences," *Journal of Consumer Research*, 20 (4), 548–60.
- Gershoff, Andrew D. and Katherine A. Burson (2011), "Knowing Where They Stand: The Role of Inferred Distributions of Others in Misestimates of Relative Standing," *Journal of Consumer Research*, 38 (3), 407–19.
- Giné, By Xavier, Dean Karlan, and Jonathan Zinman (2010), "Put Your Money Where Your Butt Is: A Commitment Contract for Smoking Cessation," *American Economic Journal: Applied Economics*, 2 (4), 213–35.
- Gupta, Sumeet and Hee-woong Kim (2007), "Developing the Commitment to Virtual Community: The Balanced Effects of Cognition and Affect," *Information Resources Management Journal*, 20 (1), 28–45.
- Hamilton, Rebecca W. and Debora Viana Thompson (2007), "Is There a Substitute for Direct Experience? Comparing Consumers' Preferences after Direct and Indirect Product

- Experiences," *Journal of Consumer Research*, 34 (4), 546–55.
- Hayes, Andrew F. (2013), *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach*, New York: Guilford.
- Huguet, Pascal, Florence Dumas, Herbert Marsh, Isabelle Régner, Ladd Wheeler, Jerry Suls, Marjorie Seaton, and John Nezlek (2009), "Clarifying the Role of Social Comparison in the Big-Fish–Little-Pond Effect (BFLPE): An Integrative Study," *Journal of Personality and Social Psychology*, 97 (1), 156–70.
- James, William (1890/1980), *The Principles of Psychology*, New York: Holt.
- Jig Thing (2018), "Fascinating Facts about Jigsaws," <http://www.jigthings.com/fascinating-facts-about-jigsaws/>.
- Kahneman, Daniel, Jack L. Knetsch, and Richard H. Thaler (1990), "Experimental Tests of the Endowment Effect and the Coase Theorem," *Journal of Political Economy*, 98 (6), 1325–48.
- (1991), "Anomalies: The Endowment Effect, Loss Aversion, and Status Quo Bias," *Journal of Economic Perspectives*, 5 (1), 193–206.
- Louro, Maria J., Rik Pieters, and Marcel Zeelenberg (2007), "Dynamics of Multiple-Goal Pursuit," *Journal of Personality and Social Psychology*, 93 (2), 174–93.
- Major, Brenda and Blythe Forcey (1985), "Social Comparisons and Pay Evaluations: Preferences for Same-Sex and Same-Job Wage Comparisons," *Journal of Experimental Social Psychology*, 21 (4), 393–405.
- Marsh, Herbert W. and John W. Parker (1984), "Determinants of Student Self-Concept: Is It Better to Be a Relatively Large Fish in a Small Pond Even If You Don't Learn to Swim as Well?" *Journal of Personality and Social Psychology*, 47 (1), 213–31.
- McCullagh, Peter and John A. Nelder (1989), *Generalized Linear Models*, 2nd ed., Boca Raton, FL: Chapman and Hall/CRC.
- Murray, Kyle B. and Gerald Häubl (2007), "Explaining Cognitive Lock-in: The Role of Skill-Based Habits of Use in Consumer Choice," *Journal of Consumer Research*, 34 (1), 77–88.
- Mussweiler, Thomas, Katja Rüter, and Kai Epstude (2004), "The Ups and Downs of Social Comparison: Mechanisms of Assimilation and Contrast," *Journal of Personality and Social Psychology*, 87 (6), 832–44.
- Nicholls, John G. (1984), "Achievement Motivation: Conceptions of Ability, Subjective Experience, Task Choice, and Performance," *Psychological Review*, 91 (3), 328–46.
- den Ouden, Elke, Lu Yuan, Peter J. M. Sonnemans, and Aarnout C. Brombacher (2006), "Quality and Reliability Problems from a Consumer's Perspective: An Increasing Problem Overlooked by Businesses?" *Quality and Reliability Engineering International*, 22 (7), 821–43.
- Pocheptsova, Anastasiya, Ran Kivetz, and Ravi Dhar (2008), "Consumer Decisions to Rent vs. Buy," in *NA—Advances in Consumer Research*, Vol. 35, ed. Angela Y. Lee and Dilip Soman, Duluth, MN: Association for Consumer Research, 78–9.
- Qualtrics (2018), "Qualtrics Research Core," <https://www.qualtrics.com/wp-content/themes/qualtrics/images/pages/certification/CertificationResearchCoreOverview.pdf>.
- R Core Development Team (2011), *R: A Language and Environment for Statistical Computing*, Vienna, Austria: R Foundation for Statistical Computing, <http://www.R-project.org/>.
- van Rekom, Johan, Peeter W. J. Verlegh, and Robert Slokkers (2009), "The Owner's Edge: Brand Ownership Influences Causal Maps," *Journal of Business Research*, 62 (3), 339–44.
- Schaefer, Tobias, Stephanie J. Lawson, and Monika Kukar-Kinney (2016), "How the Burdens of Ownership Promote Consumer Usage of Access-Based Services," *Marketing Letters*, 27 (3), 569–77.
- Spencer, Steven J., Mark P. Zanna, and Geoffrey T. Fong (2005), "Establishing a Causal Chain: Why Experiments Are Often More Effective than Mediation Analyses in Examining Psychological Processes," *Journal of Personality and Social Psychology*, 89 (6), 845–51.
- Strahilevitz, Michal A. and George Loewenstein (1998), "The Effect of Ownership History on the Valuation of Objects," *Journal of Consumer Research*, 25 (3), 276–89.
- Thompson, Debora Viana, Rebecca W. Hamilton, and Roland T. Rust (2005), "Feature Fatigue: When Product Capabilities Become Too Much of a Good Thing," *Journal of Marketing Research*, 42 (4), 431–42.
- Trochia, Philip J., Sharon E. Beatty, and William W. Hill (2006), "A Typology of Motor Vehicle Consumers Using Motives for Leasing versus Financing," *Journal of Consumer Behaviour*, 5 (4), 304–16.
- Tully, Stephanie M., and Tom Meyvis (2016), "Forgetting to Remember Our Experiences: People Overestimate How Much They Will Retrospect about Personal Events," *Journal of Personality and Social Psychology*, 113 (6), 878–91.
- Tversky, Amos and Daniel Kahneman (1974), "Judgment under Uncertainty: Heuristics and Biases," *Science*, 185 (4157), 1124–31.
- Wangenheim, Florian V. and Tomás Bayón (2007), "The Chain from Customer Satisfaction via Word-of-Mouth Referrals to New Customer Acquisition," *Journal of the Academy of Marketing Science*, 35 (2), 233–49.
- Ward, Morgan K. and Darren W. Dahl (2014), "Should the Devil Sell Prada? Retail Rejection Increases Aspiring Consumers' Desire for the Brand," *Journal of Consumer Research*, 41 (3), 590–609.
- Weiss, Liad and Gita V. Johar (2013), "Egocentric Categorization and Product Judgment: Seeing Your Traits in What You Own (and Their Opposite in What You Don't)," *Journal of Consumer Research*, 40 (1), 185–201.
- (2016), "Products as Self-Evaluation Standards: When Owned and Unowned Products Have Opposite Effects on Self-Judgment," *Journal of Consumer Research*, 42 (6), 915–30.
- Wheeler, Ladd, René Martin, and Jerry Suls (1997), "The Proxy Model of Social Comparison for Self-Assessment of Ability," *Personality and Social Psychology Review*, 1 (1), 54–61.
- Wheeler, Ladd and Kunitate Miyake (1992), "Social Comparison in Everyday Life," *Journal of Personality and Social Psychology*, 62 (5), 760–73.
- Wood, Joanne V. (1989), "Theory and Research Concerning Social Comparisons of Personal Attributes," *Psychological Bulletin*, 106 (2), 231–48.