The Material-Experiential Asymmetry in Discounting: When Experiential Purchases Lead to More Impatience

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Consumers routinely make decisions about the timing of their consumption, making tradeoffs between consuming now or later. Most of the literature examining impatience considers monetary outcomes (i.e., delaying dollars), implicitly assuming that how the money is spent does not systematically alter impatience levels and patterns. The authors propose an impatience asymmetry for material and experiential purchases based on utility duration. Five studies provide evidence that consumers are more impatient toward experiential purchases compared to material purchases and that this increased impatience is driven by whether the value is extracted over a shorter utility duration (often associated with experiential purchases) or a longer utility duration (often associated with material purchases). Thus, when an experience is consumed over a longer period of time, the results show that impatience can be diminished. Additional results show that the effect holds in both delay and expedite frames and suggest that the results cannot be explained by differences in scheduling, time sensitivity, affect, ownership, future time perspective, or future connectedness.

Keywords: impatience, present bias, material versus experiential purchases, consuming over time

Consumers routinely make decisions about the timing of their consumption. In doing so, they decide whether, and how long, they are willing to wait to forgo an immediate outcome. Generally speaking, consumers are impatient: they prefer sooner outcomes to later ones, even if the later outcome is more desirable. Among other things, this pattern of behavior has implications for how much money consumers are willing to accept to receive a later shipment or how much they are willing to pay to have something sooner.

This pattern of behavior has been studied extensively and is referred to as impatience or high rates of discounting[1] (for reviews, see Berns, Laibson, and Loewenstein 2007; Frederick, Loewenstein, and O'Donoghue 2002; Malkoc and Zauberman 2019; Urminsky and Zauberman 2016). Consumer impatience has important consequences for several consumer-relevant domains, such as product delivery/shipment decisions (Malkoc and Zauberman 2006), actual saving behavior (Laibson 1997), financial

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1 Research uses the terms impatience, high levels of discounting, and steep discounting interchangeably to refer to the phenomenon of consumers requiring a large amount of money to delay a present outcome. We adopt the same terminology and use these interchangeably.

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management (Choi, Laibson, and Madrian 2011), obesity and smoking (Khwaja, Silverman, and Sloan 2007; Richards and Hamilton 2012), and happiness and well-being (Schnitker 2012). Thus, understanding when and why consumers are impatient and when they would be willing to forgo immediate benefits has important implications not only for marketers, but for consumer well-being and public policy as well.

Yet almost all of the research on how consumers perceive and delay purchases over time (a.k.a. intertemporal preferences) has focused on monetary outcomes, with the implicit (and sometimes explicit; Landsberger 1971[2]) assumption that how the money will be spent is irrelevant to discounting and impatience (for exceptions, see Estle et al. 2007; Lowenstein 1987). This choice is highly justifiable: money is used to purchase goods and services. It is also convenient: monetary outcomes allow for simplification and value standardization. However, given the myriad of different purchases consumers can make, this assumption might be an oversimplification.

We challenge this assumption and examine whether consumers show different levels of impatience for material and experiential purchases. We propose that (1) there are systematic differences in impatience based on whether consumers are delaying experiential or material purchases, and (2) the distribution of utility over time, which we term *utility duration*, is a critical difference between material and experiential purchases that drives impatience. Across five studies we provide support for our predictions above and beyond key alternative accounts (e.g., differences in scheduling difficulty, time sensitivity, affect, future connectedness).

In the pages to follow, we develop our conceptual framework and generate hypotheses, report results from five studies testing our theory, and discuss their implications. Our findings contribute to the literature in several ways. First, we demonstrate a new moderator whereby discounting levels depend on how consumers spend their money (i.e., experiences vs. material items). Second, we identify utility duration as a new driver of impatience, which can help explain why some research has found vastly different discount rates, particularly in quantitative modeling and product adoption (Dubé, Hitsch, and Jindal 2014; Yao et al. 2012). Third, we also contribute to the experiential-material purchase literature by identifying one of the few instances when material items evoke a more desired pattern of preference (i.e., more patience/lower discounting) than experiential purchases. Finally, our findings introduce an important tool that can reduce impatience and can be used to design interventions to curb consumer impatience.

2 "The discount rate is independent of the category of consumption goods for which it is calculated" (Landsberger 1971, 1351).

EXPERIENTIAL VERSUS MATERIAL PURCHASES

Experiential and material purchases differ in several ways. At one end of this continuum are material purchases, which are tangible and purchased with the intention of acquiring a physical good; on the other end are experiential purchases, which are events that one lives through, purchased with the intention of acquiring an experience (Gilovich, Kumar, and Jampol 2015; Nicolao, Irwin, and Goodman 2009; Van Boven and Gilovich 2003). While this is a continuum, researchers have often dichotomized it into material and experiential purchases, as consumers can easily distinguish between them (Gilovich et al. 2015; Nicolao et al. 2009; Pham 2015; Van Boven and Gilovich 2003). The distinction has produced several meaningful psychological differences and has been valuable in understanding underpinnings of consumer spending of time and money (Pham 2015). For example, compared to material purchases, experiential purchases not only lead to more happiness (Van Boven and Gilovich 2003), but also tend to be more social (Caprariello and Reis 2013), less comparable (Carter and Gilovich 2010), more central to one's identity (Carter and Gilovich 2012), more slowly adapted to (Nicolao et al. 2009), and less preferred to give as gifts (Goodman and Lim 2018).

An important, and previously understudied, difference between material and experiential purchases is their consumption pattern over time, or what we call *utility duration*. Most material items provide smaller amounts of utility over an extended period of time, while the utility from an experiential purchase is extracted over a more intense, but shorter, period of time (Shu and Gneezy 2010; Weidman and Dunn 2016). In line with this difference, consumers find material purchases more attractive when they are concerned about the longevity of the purchase (Tully, Hershfield, and Meyvis 2015), and they are more likely to choose material items over experiences when considering durability (Goodman, Malkoc, and Stephenson 2016). Further supporting this notion, a study tracking momentary happiness found that experiences led to less frequent but more intense happiness, while material purchases led to more frequent but less intense happiness (Weidman and Dunn 2016). Thus, most material goods (e.g., a vinyl record or a massager) have a longer utility duration, while most experiences (e.g., a concert or a massage) tend to have a shorter utility duration. Importantly, we propose that this difference in utility duration between material and experiential purchases has important consequences for consumers' levels of impatience.

It is also important to note that while material goods are almost always long-lived (otherwise they turn into an experience, such as a meal or renting a Ferrari for a day), there are a few exceptions where experiences can last longer. For example, a massage could last one hour or a consumer

could purchase a massage membership package; going to the zoo could be a one-time event or the consumer could purchase an annual membership. For simplicity, we focus on the common cases where experiences tend to provide utility over a shorter duration compared to most material goods. However, we later turn to these unique cases to provide a direct test of the relationship between utility duration and impatience.

PURCHASE TYPE AND IMPATIENCE

While consumers generally show high discounting, several factors mitigate or exacerbate impatience (for recent reviews, see Malkoc and Zauberman 2019; Urminsky and Zauberman 2016). Relevant for our work, there is accumulating evidence for resource-specific discounting. For instance, time is discounted more heavily than money—a difference attributed to consumers' perceived levels of future slack for time and money (Zauberman and Lynch 2005). Affect-rich outcomes are also discounted more heavily than money (Vallacher 1993), presumably because of increased arousal (Kim and Zauberman 2013; Loewenstein 1996). Closely related to our investigation, consumers show more impatience toward consumable (e.g., food, cigarettes) and nonconsumable products (e.g., books, laptops) than money (Urminsky 2014); however, they show no differences in discounting for a variety of consumables (e.g., beer, candy, and soda; Estle et al. 2007). Thus, it is not apparent if experiential and material purchases would be discounted differently. Furthermore, there is no framework to make predictions about which resources will be discounted more heavily. We propose that utility duration, a factor previously not examined in this literature, has important implications for consumer impatience and will lead to systematic difference in discounting of material items and experiences.

Experiential purchases, like a concert, are often consumed in a single intense episode, and delaying them requires consumers to mentally move the consumption of this single episode to a later point in time. Conversely, material purchases, like a record player, consist of multiple and smaller episodes spread across time. Thus, delaying a material purchase necessitates moving each of the episodes into the future. The question, then, is whether consumers discount these future episodes differently than the single sooner episode. Based on the psychophysics of time and discounting (Takahashi 2005; Zauberman et al. 2009), we predict that experiences consumed in a single episode will be discounted more heavily than material items that are consumed over smaller episodes over time.

When consumers think about outcomes in the future, their perceived distance to each outcome does not follow a linear pattern (e.g., one year does not feel four times as long as three months). Instead, time perception is contracted such that the perceived duration difference between two points in time is shorter as the outcomes are moved into the future (e.g., one year feels more like 4.06 months; Zauberman et al. 2009). Importantly, discounting follows a similar pattern, flattening out as the time horizon lengthens. Consumers are less sensitive to distal delays as an outcome than to proximal ones. Compared to experiences, material goods have more episodes dispensed to distal periods. Since these distal outcomes are less painful to delay, we predict that consumers will show lower impatience for material items, compared to experiences.

Furthermore, since this asymmetry is driven by how purchases are consumed over time (i.e., utility duration), we predict an important moderator to test our mechanism: the utility duration of an experience. Experiences tend to be high in intensity but short in duration. However, as previously noted, it is possible (though relatively less common) for an experience to be consumed over a longer period of time (e.g., museum membership) and possess a longer utility duration. If utility duration drives the discounting differences between material and experiential purchases, then experiences with different utility durations can diverge in the amount of impatience they elicit. Thus, we predict that consumers considering an experience with a longer utility duration (i.e., one consumed over a longer period of time) will exhibit more patience compared to an experience with a shorter utility duration.

AN ALTERNATIVE HYPOTHESIS

We should also note that this prediction is not as straightforward as it might appear, and it is possible to generate the opposing prediction based on different literature. Another important distinction between material and experiential purchases is their tangibility (Goodman et al. 2016; Van Boven and Gilovich 2003). While material items exist in the physical world, experiences are ephemeral. Thus, material items might appear more concrete than experiences, and past research has demonstrated that concreteness—at either the representation (Malkoc and Zauberman 2006) or mindset level (Malkoc, Zauberman, and Bettman 2010)—is associated with increased discounting compared to abstraction. Based on this reasoning, one might expect material items, which are more concrete, to demonstrate steeper discounting than their experiential counterparts. We, however, predict the opposite because (a) we know of no empirical evidence that material purchases are in fact represented more concretely (and/or associated with more concrete mental representation/processing) than experiences, and (b) material purchases may actually lead to abstract representation/processing because of their long-lasting, durable nature. In the pages that follow, we will test whether consumers are more impatient

toward material goods (which would support a mindset explanation) or less impatient, which would support our utility duration theory.

STUDY SUMMARY

In a series of five experiments, we test our hypotheses, rule out alternative explanations, and consistently find an asymmetry when consumers delay experiential purchases compared to material purchase. Study 1 (sports event vs. sports apparel) finds that participants made a greater number of impatient choices when delaying an experiential purchase versus a material purchase. Study 2 rules out an important alternative explanation—rescheduling difficulty—using an expedite frame. Study 3 (movie vs. book) and study 4 (massage vs. massager) replicates the core effect with consequential choices and with two different elicitation techniques. Finally, study 5 tests our process by manipulating utility duration. These studies also measure and control for a host of alternative accounts reported in the methodological appendix. In sum, the studies find consistent evidence using different experimental procedures, using consequential choice designs, and across several product categories—categories that are consumed both alone and with others, hedonic and utilitarian, and scheduled and unscheduled.

STUDY 1: DELAYING EXPERIENTIAL AND MATERIAL PURCHASES

Method and Procedure

Three hundred two undergraduates from a large public US university participated in the experiment ($M_{age} = 20.5$; 46% male, 81% native English speakers) in exchange for extra credit in their introductory marketing course. As in all of our studies, we determined the sample size by maximizing the number of participants given the constraints of the participant pool, and we report all responses and all questions/measures collected in the study.

To compare impatience toward material items and experiences, we matched two purchases that belong to the same general category and were relevant to this population pool of college students: ticket to a sporting event and sports jersey/apparel. Further, a pretest showed that the apparel ($M = 4.70$, SE = .11) was significantly more attractive than the sporting event ($M = 3.89$, SE = .12, $t(260) = 5.90$, $p < .001$). Note that this makes our test more conservative. If participants were to be impatient toward more attractive purchases, one would expect the jersey (material item) to lead to more impatience than the sporting ticket. However, we predict the opposite.

We asked participants to imagine that their favorite uncle recently surprised them with a gift. In the material condition, the gift was "a jersey/apparel of your favorite athlete," and in the experience condition the gift was "a ticket to go see a sporting event." Both purchases were set to arrive/take place the next weekend.

Next, participants were introduced to the delay situation: "The next day, you receive an email informing you that there was a mix-up in the computer system and the jersey/apparel was oversold [stadium was overbooked]. The [ticketing] website is looking for volunteers to trade receipt of their jersey [tickets for a game/match] for a week [featuring the team/player] in exchange for a monetary compensation. In each scenario below, choose whether you would prefer to receive the jersey/apparel [tickets] this weekend OR prefer to delay its receipt [going to the game/match] by a week and receive the compensation indicated."

Participants then completed a standard choice-based delay-discounting task (Bartels and Urminsky 2011). There were 10 pairwise choices, ranging from \$0 to \$18 in \$2 increments. Thus, our main variable of interest was the number of impatient choices (e.g., going to the game this week instead of delaying it and receiving \$X). Next, participants answered questions designed to rule out two potential alternative explanations—rescheduling difficulty and time sensitivity (for details on additional measures on this and remaining studies, please see the methodological appendix).

Results and Discussion

In line with our predictions, the analysis shows that participants made more impatient choices when delaying the experience ($M = 6.61$, SE = .23) compared to delaying the material good ($M = 4.71$, SE = .24; $t(300) = 5.78$, $p < .001$, $\eta^2 = .10$). We also conducted analyses controlling for time sensitivity and rescheduling difficulty and found that the effect of material-experiential purchase on impatient choices remained significant as our dependent measure ($M = 6.43$, SE = .22 vs. $M = 4.90$, SE = .23; $t(298) = 4.81$, $p < .001$, $\eta^2 = .07$; see the methodological appendix for further statistical details).

These results suggest that consumers are more impatient toward experiences than comparable material goods. However, the study also has its limitations. First, the design of the study may have led participants to infer that a later game might be inferior or less convenient because plans had already been made to attend a sooner game. Though we did find that scheduling predicted impatience, we also found that the effect of purchase type did hold above and beyond this effect of scheduling. Nonetheless, our measure may not have picked up all the possible variance or accurately tapped into these different potential alternative accounts. We address this issue in the next study by testing the effect in an expedite frame (i.e., paying to move something to a sooner date/delivery), providing more information, and using a different vignette.

STUDY 2: EXPEDITING EXPERIENTIAL AND MATERIAL PURCHASES

To help address rescheduling difficulty as an alternative account, in study 2 we altered the discounting task from a deferral to an expedite scenario. Unlike a delay task that asks participants how much they would be willing to receive to have a purchase later, an expedite task asks participants how much they would be willing to pay to have a purchase sooner. As an outcome, in an expedite scenario, when participants make impatient choices, they are opting to reschedule; and if we observe higher impatience for experiences, our results cannot be attributable to differences in scheduling difficulty. An expedite task is an especially conservative test for our theory because overall consumers are less impatient when expediting than when delaying an outcome (Malkoc and Zauberman 2006), which will make it harder to find an asymmetry effect. Accordingly, we expect a smaller, but nonetheless a significant, material-experiential difference. Finally, in study 2 we also added three new questions to address two other potential alternative explanations—feelings of ownership and involvement.

Method and Procedure

We recruited 700 participants from Amazon Mechanical Turk (MTurk) and received 708 responses (50.4% male, US only, 95% approval or higher) and included all in our analysis.

The method and procedure was similar to study 1, with a few changes (see appendix A for full stimuli). Participants imagined that they had made the focal purchase themselves (i.e., it was not a gift as in study 1). They also imagined having plans to go to the game (or receive the jersey) next month but being given an opportunity to go to the game (or receive the jersey) this weekend for an additional fee. We also explicitly stated, "The two games are expected to be equally good and both times are equally convenient for you." They were then asked to "choose whether you would prefer to pay the amount indicated to receive the tickets now and go this weekend or prefer to delay going to the game/match to next month." They responded to 11 pairwise choices that varied from \$0 to \$20 in \$2 increments. Finally, we asked five questions to address four alternative accounts: time sensitivity, rescheduling difficulty, ownership, and involvement.

Results and Discussion

Consistent with study 1, we found that participants made more impatient choices for the experience ($M = 4.60$, SE = .15) compared to the material good ($M = 3.66$, SE = .15; $t(702) = 4.32$, $p < .001$, $\eta^2 = .03$). Note that in the expedite scenario we used, when participants chose the sooner option, they also chose to reschedule their purchase, suggesting that rescheduling difficulty is an unlikely alternative explanation. As in study 1, we also conducted analyses controlling for our alternative account measures and found that the effect of material-experiential purchase on impatient choices remained significant ($M = 4.63$, SE = .15 vs. $M = 3.58$, SE = .15, $t(696) = 5.00$, $p < .001$, $\eta^2 = .03$; see the methodological appendix for further details).

The results of study 2 further support our hypothesis and address several potential alternative explanations. Study 2 used an expedite frame and found participants were willing to pay more money to expedite an experience versus a material purchase, even though impatience meant incurring a cost to reschedule. Though this study suggests our results are unlikely due to concerns about timing or rescheduling difficulty, we control for this issue (experimentally and statistically) in future studies.

We also conducted additional robustness checks (details of these studies can be found in the web appendix). Combined, these studies control for differences in perceived monetary value (web appendix A), differences in construal of a purchase as material or experiential (web appendix B), hedonic/utilitarian nature of the purchases considered (web appendix C), and private/public nature of the consumption episode (web appendix D). We found that material-experiential asymmetry is robust to these factors. Having established the effect in hypothetical domains, next we turn to an experiment with more consequential decisions.

STUDY 3: CONSEQUENTIAL CHOICES AND WILLINGNESS TO ACCEPT

Our primary goal in study 3 was to test our hypothesis in a setting where participants made consequential choices, while using a new measure of impatience, willingness to accept (WTA). In an attempt to equate material and experiential purchases to the best extent possible, we chose movies (an experience) and books (a material good). Since books and movies have several differences, we matched them in several key ways. First, we chose movies and books because they are very similar in content and price except that a physical book has a tangible element that lasts longer, a key component in our utility duration theory. Second, we chose four new releases (to ensure participants had not yet seen the movies) and four books that were either based on those movies or vice versa. Lastly, a pretest found that these books ($M = 3.96$) and movies ($M = 3.82$) did not differ in attractiveness ($t(99) < 1$). As in our other studies, we measured several alterative explanations to statistically test and control for in our analyses.

Method and Procedure

We recruited 200 MTurk workers (56% male, US only, 95% approval or higher) and 201 participated in the study,

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with 187 answering every question (see Goodman, Cryder, and Cheema 2013 for a discussion on the validity of using MTurk samples to study intertemporal preferences).

Participants in the experience condition were presented with four movies scheduled for nationwide release during the upcoming weekend: *Hickok*, *War for the Planet of the Apes*, *Lady Macbeth*, and *Swallows and Amazons*. The material condition consisted of four books based on the same topic or story: *They Called Him Wild Bill*, *War for the Planet of the Apes*, *Lady Macbeth of Mtsensk*, and *Swallows and Amazons*. Each book/movie option consisted of the title and a one-paragraph description of the book/movie (see the appendix for the full stimuli). We asked participants to choose one book/movie out of the possible four books/movies to be delivered/viewed this weekend and informed them that five participants would be randomly chosen to receive the book/movie ticket that they chose. In the movie condition, they would be emailed an e-ticket. In the book condition, they would pick up their book from an Amazon locker (allowing us to avoid asking for their physical addresses). We conducted the study using MTurk participants via TurkPrime and limited our sample to those living in areas with high concentrations of Amazon lockers.

After participants made their choice, we informed them that "due to demand issues, we may need to delay your delivery/viewing date until a later time. How much are you willing to accept to delay the book/movie by two weeks? In other words, what is the LEAST amount of money you are willing to accept to delay receiving your book/movie by TWO WEEKS?" To decrease the influence of outliers, we limited responses to under \$100. Next, we asked five questions to address five alternative accounts, two of which (rescheduling difficulty and ownership) were measured in the same fashion as previous studies and three of which were new (time perception, affect, and future time perspective).

Results and Discussion

Despite efforts to reduce outliers, the WTA measure was still skewed. The mean response was \$7.53 with a standard error of \$.77 and a median of \$5.00. To test for outliers, we conducted a Grubbs test, an iterative analysis of the data that identified 11 outliers—five in the experiential and six in the material condition. We analyzed the data both with and without these observations to ensure that our results were not driven by outliers.

Consistent with our previous studies, participants delaying the experience demanded more money to delay the purchase for two weeks (M = \$7.07, SE = .57) than those delaying the material good (M = \$3.68, SE = .64; $t(187) = 3.96$, $p < .001$, $\eta^2 = .08$). If we include the 11 outliers, the effect remains significant, but with considerably more variance (M = \$9.22, SE = 1.03 vs. M = \$5.52, SE = 1.12; $t(198) = 2.43$, $p = .016$, $\eta^2 = .03$). As in our previous studies, we also conducted analyses controlling for alternative accounts and found that the effect of material-experiential purchase on WTA remained significant ($M = 6.81$, SE = .55 vs. $M = 3.55$, SE = .61; $t(168) = 3.94$, $p < .001$, $\eta^2 = .08$; see the methodological appendix for further details).

The results of study 3 replicate our previous findings using a consequential choices and WTA measure. We found that participants demanded more money (almost double in our study) to delay an experience compared to a similar material good. This effect remained while we controlled for a host of alternative explanations. Thus, the results further support our hypothesis that consumers are more impatient toward experiential purchases compared to material purchases.

Note that, we made every attempt to choose comparable material and experiential purchases: we limited the delay to only two weeks (to remove the potential for a movie leaving the theater), and we chose movies that had not yet been released and were based on books with similar attractiveness. Nonetheless, differences still remain between delaying a movie versus receiving a book. On the one hand, delaying a movie may be less attractive because one may want to talk about it with others when it is initially released, or may be concerned about others spoiling the ending. These could all lead to greater impatience for the experience. On the other hand, many consumers may choose to avoid opening weekend for a new movie and choose to delay the movie to avoid a crowded theater and have better seats, which would lead to less impatience for the experience. The next two studies address these issues by comparing two similar purchases (a massage and a massager) and experimentally manipulating our utility duration construct.

STUDY 4: PRESCHEDULED CHOICES

The goal of study 4 was to further test our hypothesis while holding scheduling constant. We did this using a new product category, massage/massager, and by asking all participants to schedule in advance when they would receive their material or experiential purchase (in both the present and delayed options). The experience condition described a one-hour massage therapy session and the material condition described a back/neck massager. Both the massage and the massager tend to be consumed in private, which helps address the possibility that our effects are driven by the greater social nature associated with many experiences (Caprariello and Reis 2013). As in study 3, we again used a consequential choice design. Finally, we used a pairwise choice paradigm to minimize the outliers we observed in study 3.

Method and Procedure

One hundred ninety-seven undergraduates from a midsize private US university participated in exchange for course credit. The material condition described a back/neck massager and the experience condition described a one-hour massage therapy session. We provided participants the following cover story: "More and more studies demonstrate how important it is to lead a relaxed lifestyle and how a relaxed mind is intricately connected to a relaxed body. One of the best ways to achieve this is through massages. To that end, at the end of each day, we will be randomly selecting a participant to receive a back/neck massager [one-hour massage therapy session in a nearby location]. If selected to receive the massager [the massage session], you can schedule it starting tomorrow (Feb 3rd) morning." Following these instructions, we asked participants to indicate what time/day they would like to pick up their massager (or to schedule their massage), if they were selected to receive it. All participants selected a day/time within the next week (Wednesday, Feb 3rd, to Thursday, Feb 9th).

Next, we informed participants about the possibility of a delay: "As you might imagine, it might not be possible to provide all the massagers [massage therapy sessions] next week. If this will be the case with your massager [massage therapy session], we might ask you to delay the receipt of your massager [massage session] by ONE week. Under these circumstances, we would be compensating you for your inconvenience. Note that, if you are chosen to receive the massage therapy, one of your below choices will materialize. For instance, if you chose to 'delay the massage therapy and receive \$5,' you will get your massage therapy with a delay (at a day/time of your choosing as you will indicate below), along with your \$5 compensation." Participants then indicated their preferred day/time to pick up their massager (or schedule their massage) during the following week (i.e., Wednesday, Feb 10th, to Thursday, Feb 16th).

Similar to our previous studies, participants then made a series of 10 pairwise choices, indicating their preference between receiving their massager/massage this week or next week for an additional compensation. The compensation varied from \$0 to \$45 in \$5 increments. Thus, our main variable of interest was the number of impatient choices (i.e., receive the massage/massager this week, or wait a week and receive \$X).

Finally, we measured rescheduling difficulty and time sensitivity as we did in previous studies, as well as future self-connectedness. At the end of each day, we randomly selected one participant and honored a randomly selected choice from among the 10 they made.

Results and Discussion

Consistent with our previous studies, participants who considered delaying the experience made significantly more impatient choices ($M = 2.17$, SE = .15) than those who considered delaying a material item ($M = 1.64$, SE = .16; $t(194) = 2.41$, $p = .017$, $\eta^2 = .03$). As in our previous studies, we also conducted analyses controlling for several alternative accounts and found that the effect of duration remained significant ($M = 2.22$, SE = .16 vs. $M = 1.65$, SE = .16; $t(168) = 2.48$, $p = .014$, $\eta^2 = .04$; see the methodological appendix for further details).

It is important to note that the means for this study were exceptionally low compared to our other studies. We reason that this is due to miscalibration: we used a large range of compensation amounts with large intervals. Since participants could receive up to \$45 with \$5 increments, many of our participants switched to patient choices quickly. Importantly, despite this large increment, we still observed a significant difference between material and experiential conditions. Another concern with low means is their susceptibility to outliers. That is, just a few people in the experiential condition choosing \$45 might cause a reliable difference. To test whether this was the case, we again conducted a Grubbs test, which identified four outliers—three in the experiential and one in the material condition. We reran the analyses excluding these four observations and still observed a significant difference between material ($M = 1.58$, SE = .13) and experiential ($M = 1.98$, SE = .13) conditions ($t(190) = 2.18$, $p = .03$, $\eta^2 = .02$).

These results again replicate our effect and address several alternative explanations. First, the study provides further evidence for the material-experiential asymmetry by using a consequential choice design in a new product category. Second, the study holds scheduling constant by requiring all participants to explicitly schedule both the sooner *and* the later delivery for both the experience and material purchase. Since all participants stated what day/time they would receive/engage in this product/experience, it is not possible for any differences and/or difficulty from scheduling to account for our results. Finally, this study controlled for the social nature of the products being delayed. Experiences tend to be more social than material goods (Caprariello and Reis 2013), but this study used solitary stimuli in both conditions (massagers and massage therapy) and replicated the findings, suggesting that the social nature of experiences cannot be responsible for the results.

STUDY 5: UTILITY DURATION

Thus far, the studies have consistently demonstrated a material-experiential asymmetry in impatience/discounting, while ruling out several alternative accounts. In study 5 we turn to providing direct evidence for our conceptual framework. We proposed that this asymmetry between material and experiential purchases is driven by utility duration—the duration over which a purchase is consumed.

We suggest that most experiences have shorter utility duration compared to material purchases, which then leads to higher levels of impatience for experiential purchases. Thus, if a given experience has a longer utility duration, (e.g., one-year membership to a local attraction), we would expect impatience levels similar to material purchase. To test this prediction, we added a third condition, where participants delayed an experience with longer utility duration.

Method and Procedure

We recruited 300 MTurk workers to participate in the study; a total of 307 responded and 300 answered every question (gender = 47% male, M_{age} = 39.87, US only, 95% approval or higher). The design of the study was similar to study 4, but it had an additional condition and participants did not actually receive their purchases due to logistical constraints. Thus, we had three conditions: material, experience short, and experience long. The material (massager) and experience short (one-hour massage) conditions were the same as in study 4. The new condition, experience long, was a membership for weekly HydroMassage sessions (15 minutes each). As before, we also reminded participants, "Delaying the membership won't be a problem with work and/or school. In other words, scheduling is not an issue if you decide to start your membership at a later point in time."

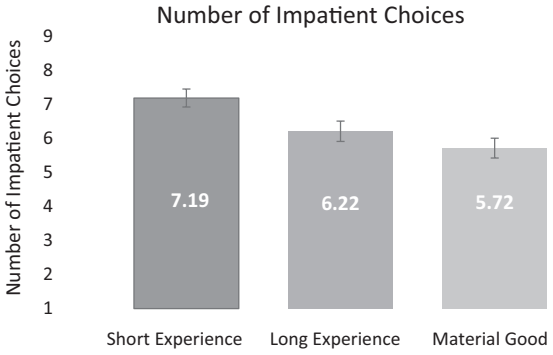
Similar to our previous studies, participants then made a series of 10 pairwise choices, indicating preference between receiving their massager/massage/membership this week or next week in exchange for additional compensation. The compensation varied from $0 to $18 in $2 increments. Finally, as in our previous studies, we measured several alternatives (perception of time, rescheduling difficulty, affect, involvement, and the future time perspective scale).

Results

Consistent with our previous studies, participants made significantly more impatient choices with the short experience ($M = 7.19$, SE = .27) than with the material good ($M = 5.72$, SE = .29; $t(304) = 3.73$, $p < .001$, $\eta^2 = .04$). In addition, utility duration also played a key role: participants made significantly more impatient choices when delaying the short experience ($M = 7.19$, SE = .27) versus the long experience ($M = 6.22$, SE = .30; $t(304) = 2.44$, $p = .015$, $\eta^2 = .02$). Using orthogonal contrast codes, we reach the same conclusion: the short experience condition had more impatient choices than the long experience and material conditions combined ($b = .41$, SE = .11, $t(304) = 3.63$, $p < .001$, $\eta^2 = .04$), and there was no difference between the long experience and the material condition ($b = -.25$, SE = .21, $t(304) = 1.18$, $p = .237$, $\eta^2 = .005$). As in our previous studies, we also conducted analyses controlling for several alternative accounts and found that the effect of duration remained significant ($b = .24$, SE = .11, $t(285) = 2.21$, $p = .028$, $\eta^2 = .02$; see appendix B for further details).

FIGURE 1

PURCHASE TYPE AND DURATION ON IMPATIENCE



Discussion

By manipulating the utility duration of an experiential purchase, study 5 provides direct evidence for our proposed conceptual framework. We hypothesized that consumers are more impatient with experiential purchases compared to material goods because the utility duration of experiences is shorter. Hence, delaying an experience means deferring most, if not all, of its value into the future. In contrast, the utility from material purchases is derived over longer durations and their deferral into the future delays a smaller part of their value, leading to lower discounting and more patience. Thus, once we elongated the utility duration of an experience and made it more similar to a material good (e.g., a massage membership), there was no longer a significant difference between it and the material condition.

It is important to note that the three-cell design (as opposed to the full 2 × 2) was an intentional and theoretically motivated choice. The excluded fourth condition (the full 2 × 2) would be a material good with short utility duration. However, it is not clear if material items that are consumed over a short period of time (e.g., a Ferrari rented for a day or a bottle of wine) are indeed truly material. While both the Ferrari and the wine have material properties, the consumption of these material purchases turns them into an experience. Indeed, one rents a Ferrari to experience the drive and buys wine to enjoy drinking it. Other short-term material purchases are disposable in nature (e.g., hand warmers, rain poncho, or handy wipes) and would introduce additional confounds around purchase timing

importance (Tully and Sharma 2018). For instance, delaying hand warmers on a cold day is not feasible, unless you have extra, in which case there is no lost utility in delaying. Since our goal was to hold the purchase type constant and manipulate only duration, we designed a study where the experiential purchase was as similar as possible, but expanded its utility duration.

GENERAL DISCUSSION

In this article, we challenge a long-standing implicit assumption in the intertemporal choice literature. When studying discounting, we found that most of the work on intertemporal choice used monetary outcomes, implicitly assuming that how and where the money will be spent is irrelevant. We questioned this assumption and found a systematic asymmetry in impatience for material and experiential purchases. In doing so, we isolated utility duration—the duration over which a purchase is consumed—as an important driver of consumer impatience. While experiences are often one-time events (e.g., a concert or a massage), material purchases are usually consumed over a longer duration, with small amounts of utility extracted over time (e.g., a couch or a shoe). This fact, combined with consumers' tendency to display declining rates of discounting with time (Thaler 1981; Zauberman et al. 2009), leads shorter-duration experiential purchases to be discounted more steeply than material purchases whose consumption episodes span out into the future. For example, when delaying a concert or massage, consumers discount the deferral of this single episode very steeply. But, when delaying the receipt of a vinyl record or a massager, consumers behave as if they are delaying each episode separately and do so with decreasing impatience for outcomes further out into the future.

Across five studies, we provided consistent evidence for the material-experiential asymmetry in impatience and its psychological underpinnings. Study 1 provided an initial test of our theory and found that participants delaying experiential purchases (ticket to a sporting event) showed significantly more impatience than those delaying material purchases (sports jersey/apparel). Study 2 ruled out an important alternative explanation: delaying necessitates rescheduling, and experiences are harder to reschedule. To rule this out, in study 2 we used an expedite frame (i.e., willingness to pay to receive the purchase sooner). We again found that consumers made more impatient choices (i.e., they wanted the experience sooner), despite impatient choices increasing the likelihood of rescheduling.

Studies 3 and 4 used consequential choices while also using different elicitation methods, and again found more impatience for experiences than for material purchases. This is especially important, as recent research has shown that different discounting elicitation methods can be driven by different psychological processes (Lee, Malkoc, and Rucker 2019). Finally, in study 5 we provided direct support for our theoretical account by showing consumers discount an experience that has a long utility duration similarly to a material purchase and significantly lower than an experience with short utility duration.

Alternative Accounts

Across all five studies, we addressed several alternative accounts through both statistical and experimental controls. We found evidence against several alternative accounts: scheduling difficulty, time sensitivity, perceived endowment, affect, time perceptions, involvement, future time perspective, and future connectedness. As one would expect, some of these factors often predict impatience, suggesting that we successfully measured the constructs. However, when we statistically control for these explanations, the material-experiential asymmetry always remains significant. Thus, we find strong evidence for the material-experiential asymmetry by examining different elicitation methods, three different sets of stimuli, experiences consumed alone and socially, more and less hedonic purchases, and consequential decisions. While we ruled out all the accounts that we could generate, future research may want to explore other potential mechanisms that may also contribute to the asymmetry.

Future research may also want to explore whether this decision process becomes automatic over time, as consumers learn about utility duration. That is, it is possible that consumers use some sort of durability-delay heuristic when deciding whether to delay.[3] We would still expect that this heuristic was learned through consumers' focus on delaying the present based on durability, what we call utility duration. Nonetheless, if this becomes an automatic process, it raises the potential for misapplication to some contexts.

It is important to note that remembered utility is unlikely to drive our results. Our proposed psychological theory, which is based on experienced utility, makes the same predictions if we incorporate remembered utility as well. Remembered utility diminishes over time, and experiences will have more intense remembered utility immediately after consumption than a material good will. Material goods, on the other hand, have remembered utility that is spread out more over time (Goodman et al. 2016). Thus, as long as the duration of remembered utility is spread out more over time for a material good than for an experience, then the same logic for experienced utility holds for remembered utility. Nonetheless, exceptions are possible. For example, extraordinary experiences (which are, by definition, not common experiential purchases) that may have low experienced utility (e.g., an ultramarathon, a Tough Mudder race, or a doctoral student on the job market) may have

3 We thank an anonymous reviewer for this suggestion.

increasing positive remembered utility for some people (e.g., a student who finds a job despite the pain of the process).

Our results are also unlikely to be driven by differences in construal or concreteness (Trope and Liberman 2010). In fact, it is possible to make two opposing predictions based on construal level theory. First, it is possible that consumers represent material goods more concretely than experience because they are more tangible. Alternatively, if consumers more vividly imagine experiences, it is possible for experiences to have more concrete representations. Since concreteness is associated with more impatience (Malkoc and Zauberman 2006), depending on which type of purchase is more concrete, one could make opposing predictions. The two studies reported in the web appendix also suggest that the relationship is likely complex. We find that while one of the studies shows no effect of material-experiential distinction on concreteness (web appendix study D), the other one finds a marginal effect (web appendix study C). Note that even if the data consistently demonstrated that experiences are indeed more concrete, we would argue that utility duration is responsible for this effect. Experiences taking place over a short period of time (and materials over a long and often-uncertain future) would drive concrete representations of experiences (and abstract representations of material goods)—and not the other way around. Nonetheless, and importantly, when we control for concreteness in our studies, our effect remains significant.

We should note that discounting and present bias are complex and multiply determined phenomena, and there are many factors that contribute to why people will feel impatient toward some purchases but want to savor others. Thus, while the current theory holds in general, it is quite possible that there are other important moderating circumstances in the environment. For instance, we may not find a difference in impatience when savoring is extremely strong, such as storing an expensive bottle of champagne or waiting for a kiss from your favorite movie star (Loewenstein 1987). We should also note that our goal was not to introduce a comprehensive account that will encompass all factors affecting consumer impatience. Instead, our goal was to isolate one instance of divergence in discount rates (material vs. experiential purchases, which are driven by utility duration) and try to use this difference to better understand the roots of impatience.

Contribution and Implications

Our findings provide several important theoretical and practical contributions. First and foremost, we contribute to the intertemporal choice literature by demonstrating that the type of outcomes used systematically alters the amount of discounting observed. Our results demonstrate that consumers' discount rates, at both the individual and aggregate level, are context- and purchase-specific. Thus, our results suggest that researchers should exercise caution before (over)generalizing findings that use monetary amounts to other domains. Further, we uncover utility duration as an important driver of discounting and impatience. This finding has important implications for understanding intertemporal decisions, which has mostly focused on understanding timing decisions for a lump sum amount.

Second, our results are important for both analytical and empirical researchers modeling consumer choice over time and researchers making assumptions about appropriate discount factors/functions (e.g., dynamic discrete choice models that allow for intertemporal tradeoffs; Bronnenberg et al. 2008; Dubé et al. 2014; and dynamic structural models, Yao et al. 2012). Our results suggest that instances of higher, as well as hyperbolic-like, discounting could be predicted when utility duration is incorporated into these models. Our extension of the classical discounted utility model allows for differences in consumption patterns over time, and future research might prove more reliable if it explicitly incorporates utility duration into utility functions.

Third, our findings provide several important contributions to the experiential-material purchase literature. These studies investigate differences in the anticipatory utility of material and experiential purchases, a topic that has received less attention than the consequences of material and experiential consumption (Dunn and Weidman 2015; Kumar and Gilovich 2016). A notable exception is Kumar, Killingsworth, and Gilovich (2014), who found that consumers can gain utility by waiting in lines for experiences, perhaps because it is viewed as part of the experience and/or increases savoring utility (Loewenstein 1987). A key difference between this and our research is when the waiting takes place. Consumers wait in line after they initiate the process of engaging in an experience. However, our research examines delays in the timing of the experience in terms of weeks or months. Taken together, the research may help illuminate how consumers can be impatient to go on vacation, but then willingly (and happily?) wait two hours in a line at Disney World to enjoy a 2 minute ride. Future research could also explore whether consumers are correctly predicting their enjoyment in these situations.

In addition, our results identify an instance when material items evoke a more desired pattern of preference (i.e., more patience) than experiential ones. While material goods and materialism usually have negative associations with consumer happiness and well-being (Pieters 2013; but see Shrum et al. 2014), it is important to identify some of the potential advantages to material goods. After all, consumers continue to pursue material goods despite research showing the advantages to experiences. Our research adds to the recent research in identifying such patterns (Goodman and Lim 2018). Future research should explore other advantages to material purchases in addition to more patience.

Finally, our results suggest that firms may benefit from using different pricing strategies for material items and experiences. For example, financial firms usually price financial products based on supply (i.e., current interest rates) and a consumer's individual risk. In doing so, they assume that how consumers spend the money is irrelevant (the exception being when the purchase also serves as collateral). This is consistent with recent work showing that consumers are more likely to go into debt when purchasing experiences versus material goods (Tully and Sharma 2018). This is an important consideration for credit card companies. Similarly, retailers that sell both material goods and experiences (e.g., REI selling outdoor gear and excursions) may find that consumers' willingness to wait for a good may not match their willingness to wait for an experience. Such firms might consider different premiums for faster delivery depending on utility duration.

From a policy standpoint, our findings provide suggestions to help consumers make more rational decisions and avoid the pitfalls associated with impatience and present bias. For example, distributing products or resources over time (e.g., food distributions, subscribe-and-save marketing strategies, lump-sum vs. installment payments) not only helps consumers with budgeting, but also creates a greater willingness to wait for greater discounts. While we cannot say that such policies would lead to a more patient consumer overall, our results are consistent with such a notion.

DATA COLLECTION INFORMATION

The first and second authors collected all of the data, and the first author analyzed the data in the fall of 2018 using SAS. All of the data was collected using Qualtrics software. Study 1 was collected via the Fisher College of Business participant pool, study 4 via the Olin School of Business participant pool, and studies 2, 3, and 5 via Mechanical Turk on an account owned by the first author. All conditions and measures are reported in the article.

APPENDIX: STIMULI DETAILS

STUDY 2 STIMULI

Material (Sports Apparel/Jersey) Condition

Imagine that you purchased the jersey/apparel of your favorite athlete. The jersey is set to arrive NEXT MONTH.

It is also possible for you to get the jersey THIS WEEKEND, but for an extra fee.

In each scenario below, choose whether you would prefer to pay the amount indicated and receive it by THIS WEEKEND OR prefer to wait and receive the jersey/apparel NEXT MONTH.

Experience (Game/Match) Condition

Imagine that you have a ticket to go see a sporting event. This game/match features your favorite athlete and will take place NEXT MONTH.

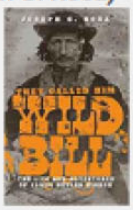
It is also possible for you to go see a similar sporting event THIS WEEKEND, but for an extra fee. The two games are expected to be equally good and both times are equally convenient for you.

In each scenario below, choose whether you would prefer to pay the amount indicated to receive the tickets now and go THIS WEEKEND OR prefer to delay going to the game/match to NEXT MONTH.

STUDY 3 STIMULI

Material (Books) Condition

***They Called Him Wild Bill: The Life and Adventures of James Butler Hickok* (by Joseph G. Rosa)**



His contemporaries called him Wild Bill, and newspapermen and others made him a legend in his own time. Among western characters only General George Armstrong Custer and Buffalo Bill Cody are as readily recognized by the general public. " The author was allowed to work from newly available materials in the possession of the Hickok family and discovered new material pertaining to Wild Bill's Civil War exploits and his service as a marshal and found the pardon file of his murderer, John McCall. Additional, rare photographs of Wild Bill are published here for the first time. The results is the best biography of Wild Bill likely to be written for years to come.

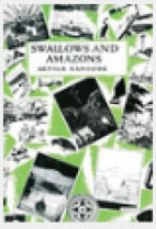
***War for the Planet of the Apes* (novelization by Greg Cox)**

Caesar and his apes are forced into a deadly conflict with an army of humans led by a ruthless Colonel. After the apes suffer unimaginable losses, Caesar wrestles with his darker instincts and begins his own mythic quest to avenge his kind. As the journey finally brings them face to face, Caesar and the Colonel are pitted against each other in an epic battle that will determine the fate of both their species and the future of the planet.

***Lady Macbeth of Mtsensk and other Short Stories* (by Nikolai Leskov)**

The story of a passionate young woman who escapes her stifling marriage through adultery and murder, Lady Macbeth of Mtsensk is now the basis for an acclaimed new film starring Florence Pugh Nikolai Leskov is one of the most unique voices of nineteenth-century Russia, with a fascination for idiosyncratic characters, lurid crimes, comic absurdity, spirituality and the joy of pure story. This volume contains five of his greatest short tales, including the matchless masterpiece Lady Macbeth of Mtsensk. Translated with an introduction by David McDuff.

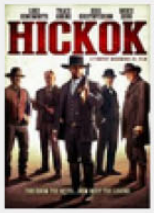
***Swallows and Amazons* (by Arthur Ransome)**



Set in England's Lake District in the 1930s, Swallows and Amazons is the rollicking story of four young children--John, Susan, Titty and Roger--who embark on an island adventure in their boat, the Swallow. Upon arriving, the friends are besieged by Amazon pirates, Nancy and Peggy, who claim ownership of the land. Luckily, the Swallows and Amazons soon call a truce and set off together on wild escapades, camping under open skies, swimming, fishing, and exploring. This deluxe hardcover edition of Arthur Ransome's charming tale will find a treasured spot in many home libraries as well as transport children to a real-life Neverland, a fantastical place where they can roam freely without an adult in sight.

Experience (Movie) Condition

Hickok



Infamous gunslinger and outlaw "Wild Bill" Hickok (Luke Hemsworth) attempts to escape his past by settling in the small town of Abilene, Kansas. The mayor (Kris Kristofferson), captivated by Wild Bill's unparalleled gun skills, offers him a job as the town marshal. Attempts to protect the town are soon challenged when a band of outlaws threaten Wild Bill and the laws he administered. Among the outlaws are powerful saloon owner Phil Poe (Trace Adkins), whose relationship with Bill's ex-lover (Cameron Richardson) stirs tension. Poe puts a bounty on Wild Bill's head, but Bill sets out to fight the villainous bandits and save Abilene from danger.

War for the Planet of the Apes

In the third installment of the Planet of the Apes prequel series -- which depicts the events that led to the primates taking control of Earth -- simian leader Caesar (played via motion capture by Andy Serkis) is horrified when his family are killed during an attack by humans on his community. Caesar soon plots revenge on the Colonel (Woody Harrelson), the human military leader behind the assault, which threatens to ignite all-out war between the two species.

Lady Macbeth

In 1865 England, a young woman named Katherine (Florence Pugh) is trapped in a loveless arranged marriage to a much older man (Paul Hilton), and begins a passionate affair with one of the servants on her estate (Cosmo Jarvis). When her husband and father-in-law (Christopher Fairbank) discover their tryst, the lovers resort to deception and murder in order to save their relationship. Based on the novel Lady Macbeth of the Mtsensk District by Nikolai Leskov.

Swallows and Amazons

Four children dream of escaping the tedium of a summer holiday with their mother. When finally given permission to camp on their own on an island in the middle of a vast lake, they are overjoyed. But when they get there they discover they may not be alone... The battle for ownership of a lonely island teaches them the skills of survival, the value of friendship and the importance of holding your nerve. Set against the breathtaking backdrop of the Lake District, Swallows and Amazons is a heartwarming adventure for all the family.

METHODOLOGICAL APPENDIX

Our studies also contained several measures to control for and address potential alternative explanations. We discuss each in detail next.

Study 1: Control Measures and Additional Analyses

Experiences are harder to reschedule and are often more time-sensitive. If so, they might explain our results. If rescheduling the sporting event is more difficult than rescheduling the delivery of the jersey, then this concern should result in an unwillingness to change the date for the sporting event. In our data, this would present itself as more impatient choices for the sporting event. Though we control for rescheduling in study 2 by testing an expedite frame and in study 3 by asking all conditions to schedule, we wanted to examine whether the results of our other studies held while we controlled for scheduling and/or time sensitivity concerns.

Method. To gauge concern about scheduling we asked, "How concerned were you about the difficulty in rescheduling going to the match?" on a seven-point scale (1 = not concerned at all, 7 = very concerned). Similarly, if participants believe that attending a sporting event is more time-sensitive than receiving the jersey, then time sensitivity could also explain participants' unwillingness to delay the experience (for monetary compensation). To gauge concern about time sensitivity we asked, "Some things are more time-sensitive: For example, Valentine's Day dinner is not the same if it is a month after Valentine's Day. In this scenario, how time-sensitive was the arrival/delivery of this [purchase]?" on a seven-point scale (1 = not time-sensitive, 7 = very time-sensitive).

Results. We added measures for each of the two alternative accounts—both separately and jointly—into a regression model with the material-experiential factor as independent variables and the number of impatient choices as our dependent measure. As one might expect, time sensitivity and reschedule difficulty significantly predict participants' willingness to delay a purchase. However, after their addition to the model (either separately or jointly), we still found that participants made more impatient choices when delaying experiences versus material goods (joint model: $b = .76$, SE = .16; $t(298) = 23.12$, $p < .001$; see table 1).

TABLE 1

COEFFICIENTS FOR EXPERIENCE VERSUS MATERIAL GOOD ON IMPATIENCE WITH AND WITHOUT CONTROL VARIABLES

Model	Experiential versus material	Time sensitivity	Reschedule difficulty
1	.95**(.16)		
2	.87**(.16)	.25**(.08)	
3	.80**(.16)		.55**(.10)
4	.76**(.16)	.17**(.08)	.50**(.10)

**$p < .01$, *$p < .05$, ^$p < .1$; standard errors are in parentheses.

TABLE 2

COEFFICIENTS FOR EXPERIENCE VERSUS MATERIAL GOOD ON IMPATIENCE WITH AND WITHOUT CONTROL VARIABLES

Model	Experiential versus material	Time sensitivity	Reschedule difficulty	Ownership	Involvement
1	.47**(.11)				
2	.46**(.11)	.27**(.06)			
3	.54**(.11)		.34**(.06)		
4	.48**(.11)			.19**(.06)	
5	.50**(.11)				.29**(.05)
6	.53**(.11)	.13^(.07)	.20**(.07)	.14*(.06)	.24**(.05)

**$p < .01$, *$p < .05$, ^$p < .1$; standard errors are in parentheses.

Study 2: Control Measures and Additional Analyses

In study 2 we added three new questions to address two other potential alternative explanations—feelings of ownership and involvement—in addition to time sensitivity and rescheduling difficulty. It is possible that once consumers have made a purchase, they feel like they already own a material item. If so, a consumer might be more patient to obtain a material good because they feel like they (mentally) already own it. Further, it is possible for experiential purchases to be more involving than material purchases, which could also be responsible for the asymmetry.

Method. We measured rescheduling difficulty in the same fashion as study 1. Time sensitivity used the same scale as study 1, but a slightly different question: "Some purchase decisions are time-sensitive. For example, delaying a flight to a wedding is not useful if you miss the wedding. Or delaying delivery of a tux is not useful if it arrives after the wedding. How time-sensitive was your decision to delay receiving this [purchase]?" We measured ownership by asking two questions on seven-point scales (1 = totally disagree, 7 = totally agree): "I feel like I already have ownership of this product [experience]" and "I feel like my purchase is already mine, even though I have not received [experienced] it yet." Finally, we measured involvement by asking, "How interested are you in athletics and/or sports?" (1 = not very interested, 7 = very interested).

Results. We again conducted additional analyses by adding measures for each of the four alternative accounts—both separately and jointly—into a regression model with the material-experiential factors as independent variables and the number of impatient choices as our dependent measure. Once again, these factors did in fact significantly predict participants' willingness to delay a purchase (see table 2 for statistics for all models). However, and most important for our purposes, even after any of these control variables

TABLE 3

COEFFICIENTS FOR EXPERIENCE VERSUS MATERIAL GOOD ON IMPATIENCE WITH AND WITHOUT CONTROL VARIABLES

Model	Experiential versus material	Perception of time	Reschedule difficulty	Ownership	Affect	Future time perspective
1	1.69**(.43)					
2	1.82**(.40)	.07**(.01)				
3	1.61**(.41)		1.15**(.24)			
4	1.58**(.42)			.63**(.24)		
5	1.36*(.42)				.89**(.28)	
5	1.55*(.44)					.36(.34)
6	1.63**(.41)	.04*(.02)	.69**(.31)	.07(.27)	.17(.36)	.32(.35)

**$p < .01$, *$p < .05$, ^$p < .1$; standard errors are in parentheses.

were added to the model (either separately or jointly), we consistently found that participants made more impatient choices for experiences than for material goods (joint model: $b = .53$, SE $= .11$, $t(696) = 5.00$, $p < .001$).

Study 3: Control Measures and Additional Analyses

A secondary goal of study 3 was to address several alternative accounts. We measured time perception, affect, and future time perspective, in addition to rescheduling difficulty and ownership. A time perception account proposes that participants' duration estimates between the sooner and later dates play a role in our scenarios. Since consumers' perceptions of time are also hyperbolic (Zauberman et al. 2009), it is possible that participants in the experience condition perceive the time between the current and delayed outcome as longer than in the material condition. An affect account proposes that experiential purchases could be more affect-rich. To the extent that participants show more impatience toward affect-rich options, one could expect affect to drive impatience results. Finally, a future time perspective (FTP; Lang and Carstensen 2002) account proposes that if participants view the future to be less expansive in the experiential condition than in the material condition, then they might behave more impatiently, which could account for our results.

Method. We asked five questions to address five alternative accounts, two of which (rescheduling difficulty and ownership) were measured in the same fashion as previous studies and three of which were new: time perception, affect, and future time perspective. We measured time perception on a 100-point slider scale by asking, "How long does the time between this weekend and two weeks feel like?" (0 = very short, 100 = very long; adapted from Zauberman et al. 2009). We captured affect by combining two statements measuring excitement ("I'm excited for this book/movie") and disappointment ("I would be disappointed if I had to give up this book" [reverse-scored]) on seven-point scales, where 1 = totally disagree and 7 = totally agree. Finally, we measured FTP using its scale (Lang and Carstensen 2002), whereby participants indicate whether they thought 10 statements were "very true" (7) or "very untrue" (1), such as "Many opportunities await me in the future," "There is plenty of time left in my life to make new plans," and "I have the sense that time is running out" (reverse-scored).

TABLE 4

COEFFICIENTS FOR EXPERIENCE VERSUS MATERIAL GOOD ON IMPATIENCE WITH AND WITHOUT CONTROL VARIABLES

Model	Experiential versus material	Reschedule difficulty	Time sensitivity	Future self	Future connected
1	.26*(.11)				
2	.26*(.11)	.41**(.09)			
5	.33**(.11)		.17**(.06)		
3	.27*(.11)			.01(.01)	
4	.26*(.11)				.01(.01)
5	.29*(.12)	.36**(.10)	.10(.06)	.001(.01)	.01(.01)

**$p < .01$, *$p < .05$, ^$p < .1$; standard errors are in parentheses.

Results. We again conducted a series of regressions, adding each measure as a potential explanatory variable. Once again, rescheduling difficulty did significantly predict a participant's WTA amount (see table 3 for statistics for all models). Similarly, perception of time, ownership, and affect all significantly predicted WTA amounts, while future time perspective did not. Most importantly, when any of these control variables was added to the model, our key effect remained significant. When we include the seven outliers simultaneously, the hypothesized remains significant (model 7: $b = 1.63$, SE $= .41$, $t(168) = 3.94$, $p < .001$).

Study 4: Control Measures and Additional Analyses

In study 4 we measured rescheduling difficulty and time sensitivity as we did in previous studies, as well as future self-connectedness. Self-connectedness to the future has been shown to decrease impatience (Ersner-Hershfield, Wimmer, and Knutson 2009). If participants in the material condition feel more connected to their future self, this could account for our effects.

TABLE 5

COEFFICIENTS FOR EXPERIENCE VERSUS MATERIAL GOOD ON IMPATIENCE WITH AND WITHOUT CONTROL VARIABLES

Model	Duration: Short versus long	Perception of time	Reschedule difficulty	Ownership	Time sensitivity	Affect	Involvement	Future time perspective
1	.41**(.11)							
2	.35*(.11)	.04**(.01)						
3	.39**(.11)		.08(.10)					
4	.39**(.11)			.17^(.09				
5	.34**(.11)				.37**(.08)			
6	.29*(.11)					.48**(.11)		
7	.41**(.11)						–.31(.41)	
8	.38**(.11)							.11(.17)
9	.24*(.11)	.03**(.01)	–.14(.10)	–.01(.09)	.30**(.01)	.25*(.13)	.04(.39)	.12(.15)

**$p < .01$, *$p < .05$, ^$p < .1$; standard errors are in parentheses.

Method. We measured the degree to which a person feels connected to their future self with two questions. They both used 100-point slider scales, one with overlapping circles [question 1: 1 = "I will be completely different in the future" to 100 = "I will be completely the same in the future"; question 2: overlapping circles where 100 = "completely connected" and non-overlapping circles where 0 = "completely disconnected" (adapted from Ersner-Hershfield et al. 2009)].

Results. We conducted a series of regressions with impatient choices as our dependent measure and the material-experiential variable and each of the four alternative explanations as independent variables, both separately and jointly. Once again, time sensitivity and rescheduling difficulty do in fact significantly predict a participant's willingness to delay a purchase (see table 4 for statistics for all models). Future connectedness, on the other hand, did not significantly predict impatience in a consistent manner. However, and most important for our purposes, when any of these control variables was added to the model (either separately or jointly in model 5 in table 4), our key effect remained significant: participants made more impatient choices when delaying experiences versus material goods (model 5: $b = .29$, SE $= .12$, $t(168) = 2.48$, $p = .014$, $\eta^2 = .04$).

Study 5: Control Measures and Additional Analyses

Method and Results. In study 5 we measured perception of time, rescheduling difficulty, affect, involvement, and the FTP scale in the same fashion as our previous studies. As in our previous studies, we conducted a series of regressions with impatient choices as our dependent measure and the contrast codes and each of the alternative explanations as independent variables, both separately and jointly. To test our utility duration hypothesis in a single model, we analyzed our data using orthogonal contrast codes. One contrast code ("Duration: Short vs. Long" in table 5) tested utility duration by comparing the short experience condition (+2) to the long experience (–1) and material conditions (–1). A second code compared the long experience (–1) to the material condition (+1), with short experiences coded as zero (0). Our key effect of utility duration remained significant when we controlled for these alternative explanations: participants made more impatient choices when utility duration was short than when it was long (model 9: $b = .24$, SE $= .11$, $t(285) = 2.21$, $p = .028$, $\eta^2 = .02$; see table 5 for statistics for all models).

Discussion

In sum, the results of all of the studies also provide evidence against several alternatives. The results do not support a scheduling explanation because a long experience should require the same scheduling as a short experience, suggesting the same or more impatience; however, we found that a long experience led to less impatience. We also found that our results held while we controlled for several alternative explanations. Thus, the results from these analyses across all studies consistently show that the effect of purchase type on impatience cannot be explained by differences in scheduling, time sensitivity, affect, ownership, future time perspective, or future connectedness.

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