

“The Time vs. Money Effect”:

Shifting Product Attitudes and Decisions through Personal Connection

CASSIE MOGILNER

JENNIFER AAKER*

Forthcoming in *Journal of Consumer Research* 2009

* Cassie Mogilner is a PhD candidate in marketing at Stanford University, Graduate School of Business, Stanford, CA 94305 (mogilner_cassie@gsb.stanford.edu). Jennifer Aaker is the General Atlantic Professor at Stanford University, Graduate School of Business, Stanford, CA 94305 (aaker_jennifer@gsb.stanford.edu). This article is based on the first author's dissertation. The authors are grateful for the helpful input of the editor, associate editor, and reviewers. In addition, the authors thank Ravi Pillai for his insights and help. Correspondence: Cassie Mogilner.

The results of five field and laboratory experiments reveal a “time vs. money effect” whereby activating time (vs. money) leads to a favorable shift in product attitudes and decisions.

Because time increases focus on product experience, activating time (vs. money) augments one’s personal connection with the product, thereby boosting attitudes and decisions. However, because money increases focus on product possession, the reverse effect can occur in cases where merely owning the product reflects the self (i.e., for prestige possessions and among high materialists). The “time vs. money effect” proves robust across implicit and explicit methods of construct activation. Implications for research on the psychology of time and money are discussed.

References to time and money are pervasive in the consumer landscape. Consider, for example, the marketing campaigns of two brands of beer: Miller's "It's Miller time" commercials have appealed to consumers by guiding attention to time, whereas Stella Artois's "Perfection has its price" campaign has appealed through focusing attention on money. Even Citibank, an institution based on monetary transactions, brings focal attention to how one chooses to spend time (not money) in their "Live Richly" campaign (e.g., "There is no preset spending limit when it comes to time with your family"). In fact, a content analysis of ads in four magazines targeting a wide range of consumers (*Money*, *New Yorker*, *Cosmopolitan*, and *Rolling Stone*) revealed that, out of the 300 advertisements, nearly half of the ads (48%) integrated the concepts of time and/or money into their messages.

Despite the preponderance of marketers' decisions to use these constructs in their communications, little is known about the downstream effects of directing consumers' attention to time or money. Does the mere mention of time (vs. money) change the way consumers evaluate products? And if so, why?

To address these questions, we conducted a series of experiments in the field and laboratory, the results of which converge to show that increasing the relative salience of time (vs. money), through either explicit or implicit methods, systematically shifts product attitudes and decisions. This "time vs. money effect" appears to be driven by a differential focus on experiencing versus possessing the product. Because one's experience with a product tends to foster feelings of personal connection with the product, activating time (vs. money) typically leads to more favorable attitudes and decisions. However, there are also conditions, albeit more limited in number, where one's mere possession of the product reflects the self (e.g., ownership of a high status good or for materialistic consumers). In such conditions, activating money (vs. time) can instead have more favorable effects. Together, the results illuminate the "time vs. money effect" (experiments 1-5), the driving role of personal connection (experiments 2-3), and

the determinant roles of product type (experiment 4) and consumer type (experiment 5) on product attitudes and decisions.

THE PSYCHOLOGY OF TIME AND MONEY

Time and money are complex constructs that have enjoyed considerable attention across a wide variety of disciplines. As a small sampling, researchers have examined the impact of temporal distance on how potential future outcomes are construed and valued (e.g., LeBoeuf 2006; Loewenstein 1987; Malkoc and Zauberan 2006; Mogilner, Aaker, and Pennington 2008; Trope and Liberman 2000; Zauberan and Lynch 2005), as well as the emotional and behavioral effects of past versus future orientation (Bergadaa 1990; Van Boven and Ashworth 2007) and lifetime (Carstensen, Isaacowitz, and Charles 1999; Ferraro, Shiv, and Bettman 2005). The research on money is similarly dense, primarily focusing on money as a resource, exploring the subjective experience of gaining versus losing it (Kahneman and Tversky 1979), decisions of how to spend, save and grow it (Dunn, Aknin, and Norton 2008; Heath and Soll 1996; Thaler 1985), and the effects of its accumulation on happiness, health, and mortality (Adler and Snibbe 2003; Diener and Seligman 2004).

Further, a growing stream of research has integrated the constructs of time and money, arguing that they are both fundamentally important resources, but are marked by psychologically distinct characteristics that impact each one's allocation (e.g., Reed, Aquino, and Levy 2007; Saini and Monga 2008; Soman 2001; Zauberan and Lynch 2005). For example, because time is less fungible than money (i.e., one can't make up for lost time), losing time tends to be more painful than losing money (Leclerc, Schmitt, and Dubé 1995). Further, because the measurement of time is more ambiguous than of money, people feel less accountable for how they spend their time; consequently, they prefer to spend time rather than

money on such outcomes as high risk-high return lotteries and hedonic goods (Okada 2005; Okada and Hoch 2004).

Personally Connecting through Time vs. Money

Characteristics such as fungibility and ambiguity are but one type of important distinction defining time and money; another might be the extent to which each is personally meaningful (e.g., linked to personal experiences, identity, and emotions). In this light, merely mentioning time versus money may have broad consequences—fostering differential meaning for consumers thinking about their products. Our basic premise is that activating the construct of time (vs. money) tends to encourage personal connection with products (i.e., feeling that the product is “me”), particularly when the product is experiential—where *using* the product defines the product’s value.

Three lines of research give rise to such a premise. First, in the context of charitable giving, individuals report how they spend their time to be more reflective of one’s personal identity than how they spend their money (Reed et al. 2007). Consequently, individuals prefer donating their time rather than their money to charity, particularly when they are motivated to be perceived as moral (Reed et al. 2007). Second and relatedly, recent research shows that asking questions about donations of time versus money to a charity differentially fosters beliefs of personal happiness, which drives actual donation behavior (Liu and Aaker 2008). For instance, when individuals are asked to donate some time to a charity, they are likely to consider their personal happiness which would ensue from making that donation. If instead, they are first asked to donate some money to a charity, they are less likely to consider their personal happiness. Consequently, individuals give significantly more money to the charity when first solicited for time (vs. money).

A third and broader research stream also highlights the link between time and the self, particularly as it applies to the representation of time as an (ultimately scarce) resource: As time becomes more constrained (either from getting old or as a phase of life comes to a close), personally meaningful goals become more important (Carstensen, Isaacowitz, and Charles 1999). For example, when time is seen as limited, people are more persuaded by messages that are emotionally meaningful (Williams and Drolet 2005) and reflect personally important goals (Liu and Aaker 2007). Thus, not only is time precious because it is unable to be regained (Leclerc et al. 1995), but the ways individuals choose to spend their time, and the experiences they accumulate over the course of such temporal expenditures, quite literally constitute each person's life and who they perceive themselves to be (Van Boven and Gilovich 2003).

Therefore, we propose that activating the construct of time while consumers evaluate a product will lead them to focus on their experiences using the product, which generally will heighten their personal connection to that product—their feeling that the product reflects the self. So, much like accumulating shared experiences from spending time with other people increases feelings of interpersonal connection (Aron et al. 2000), spending time with products should increase consumers' feelings of personal connection to those products.

In contrast, spending money tends to be less representative of oneself (Reed et al. 2007), suggesting that the activation of money during product assessment should not afford the same feelings of personal connection. Money is a colder unit of exchange that when made salient may, in fact, lead consumers to feel personally disconnected from their products. Indeed, the primary value of money comes from its instrumentality in acquiring products and services (Lea and Webley 2006), with greater amounts of money promising access to higher quality goods (Kirmani and Wright 1989). In this light, the value of spending money is less about the personal experience it offers; rather, it is about the possessions it affords—which anyone can acquire as long as they are willing to pay that price.

We, therefore, propose that activating the construct of money (during product assessment) will lead individuals to focus on simply having the product, which typically does not grant heightened feelings of personal connection. This prediction conceptually dovetails with recent research showing that activating the concept of money leads individuals to interpersonally disconnect from others. Indeed, when money is primed (e.g., a stack of monopoly money is in one's visual periphery or individuals arrange words to form phrases that are related to money: "a high-paying salary" vs. "it is cold outside"), people do not want to depend on others, nor do they want others to depend on them (Vohs et al. 2006). So, much like activating money decreases people's feelings of personal connection to others, activating money may also lead consumers to feel personally disconnected from their products.

There may be particular instances, however, where the mere possession of the product feels more "me" than the actual usage of the product (Escalas and Bettman 2005; Kleine, Kleine, and Allen 1995). For example, prestige possessions (e.g., designer jeans, expensive jewelry, high status cars) are a category of goods where spending a large amount of money on the product reflects one's identity (Bearden and Etzel 1982; Richins 1994). Likewise, for materialistic consumers, who largely identify themselves by the prestige of their possessions, the products they own communicate their self worth (Richins and Dawson 1992). Individuals have indeed been shown to lay out considerable sums of money to own brands which they feel reflect aspects of their self (Aaker 1999), and it has been argued that in some instances possessions can even serve as extensions of oneself (Belk 1988). One consumer notes, "[buying prestige products have become] a part of my life. They reflect my lifestyle. I spend 30% to 40% of my salary on these goods" (Ray 2008). In the case of prestige possessions, consumers extract value from merely owning the product, whereas the time spent actually using the product wanes in importance (Van Boven and Gilovich 2003). Indeed, in many cases, very little time is spent with the product once purchased (Silverstein, Fiske, and Butman 2005). Thus, we predict that

for prestige possessions and for materialistic consumers, priming money (vs. time) will instead increase feelings of personal connection by increasing focus on product possession.

Effect of Personal Connection on Product Attitudes and Decisions

Irrespective of whether feelings of personal connection stem from experiences gained using the product or from the mere possession of the product, we hypothesize that increasing one's feelings that the product is "me" will lead to more favorable product attitudes and increased choice. Indeed, decades of research in psychology have given credence to the assumption that individuals are motivated to (and do) view themselves favorably (Allport 1961; James 1950; Taylor and Brown 1988). Consequently, people have positive automatic associations with respect to themselves—which can influence their feelings about almost anything that is associated with them (Greenwald and Banaji 1995; Hetts, Sakuma, and Pelham 1999; Paulhus and Levitt 1987). For example, people like the letters that appear in their own name more than those that are not (Nuttin 1985), and they are nicer to strangers who share their birthday than they are to other strangers (Miller, Downs, and Prentice 1998).

It, therefore, seems highly likely that people will also like products more that are more closely connected to the self than products that are not. Evidence from consumer research offers support for this prediction, showing that consumers report more favorable attitudes towards products that reflect their personal identities (Beggan 1992; Reed 2004). Thus, we posit a causal link whereby heightening feelings of personal connection to a product will foster more favorable attitudes towards that product, as well as an increased likelihood to choose that product.

Departing from prior research, we argue that when these feelings of personal connection stem from experiences gained using the product, activating time (vs. money) should lead to more favorable product attitudes and decisions. In contrast, when feelings of personal connection stem

more from product possession, activating money (vs. time) should lead to more favorable effects (see figure 1). More formally, we predict:

H1: Activating time (vs. money) positively impacts product attitudes and decisions.

H2: The effect of activating time (vs. money) is mediated by shifting consumers' feelings of personal connection to the product.

H3a: When personal connection stems from product experience, activating time leads to more favorable attitudes than activating money.

H3b: When personal connection stems from product possession, activating money leads to more favorable attitudes than activating time.

Insert figure 1 about here

To test these hypotheses, five experiments were conducted. The first experiment takes place in the field, where the mere mention of time (vs. money) in the signage of a lemonade stand reveals a favorable effect on consumers' actual purchasing decisions, willingness to pay, and product attitudes. The second experiment examines the case of iPod, revealing more favorable product attitudes when consumers think about their time (vs. money) spent on the product. The subsequent studies further examine the effect, showing that such a shift cannot be explained by benefit (vs. cost) associations (experiment 2 and 3), nor does it require explicitly making consumers think about their time spent with a product versus money spent on a product (experiment 5). Instead, the time versus money effect appears to be driven by heightened

feelings of personal connection with the product, and it occurs even when the constructs of time and money are implicitly activated.

Together, the results suggest that activating time tends to lead to a greater focus on one's experience using the product, whereas activating money leads to a greater focus on one's value from having the product. That is why in the more typical case, where personal connection stems from product experience, activating time boosts product attitudes and decisions. However, for certain products (i.e., prestige possessions; experiment 4) and for certain consumers (i.e., high materialists; experiment 5) where personal connection stems from merely possessing the product, activating money instead boosts product attitudes and decisions.

THE LEMONADE EXPERIMENT 1: WHEN TIME > MONEY

Testing for the basic effect of activating time versus money, experiment 1 was a field experiment conducted in a context wherein many initially learn effective marketing practices—a lemonade stand. In experiment 1, we examined whether the mere mention of time (vs. money) in a product's marketing materials could influence product attitudes, as well as consumers' decisions to actually purchase the product and the amount they are willing to pay for the product.

Method

On a Saturday afternoon, we set up a lemonade stand next to a San Francisco park path, which for increased external validity was manned by two six year olds (see appendix). The signage for the lemonade stand (which mentioned time, money, or neither) was switched every ten minutes so as to randomly assign passersby to the single-factor, between-subjects

experimental design. In the time condition, the sign read, “Spend a little time, and enjoy C&D’s lemonade.” In the money condition, the sign read, “Spend a little money, and enjoy C&D’s lemonade.” There was also a control condition where neither time nor money was mentioned: “Enjoy C&D’s lemonade.”

To measure purchasing decisions, a confederate counted of the total number of people who passed by (walking or on bikes; $N = 391$), the proportion who stopped to purchase a cup of lemonade. Those who stopped ($n = 40$) represented a range of ages (14 – 50 years old), both genders (58% male), and a variety of occupations (e.g., bankers, military, students, marketers); and they were not observed to differ demographically from the passersby who did not stop.

As an additional behavioral measure, we tracked the amount customers were willing to pay for the product. Customers were told that they could pay anywhere between \$1 and \$3 for a cup of lemonade; the precise amount was up to them.

After customers purchased their cup of lemonade, we administered a customer satisfaction survey to measure customers’ attitudes toward the product. Customers reported their attitudes toward the lemonade on three seven-point semantic differential scales (unfavorable/favorable; bad/good, negative/positive; $\alpha = .90$). Upon completing the survey, customers were thanked, and they continued on their way taking the remainder of their lemonade with them.

Results and Discussion

As predicted, activating time versus money via a product’s marketing materials proved to impact consumers’ decisions and attitudes. First, a chi-square analysis revealed a marginal overall effect of condition on purchasing decisions ($\chi^2 = 4.65, p < .10$). In support of hypothesis 1, a greater proportion of passersby decided to purchase a cup of lemonade when the sign

mentioned time (14%) than when the sign mentioned money (7%), ($\chi^2 = 4.59, p < .05$). There was not a significant difference between the proportion of passersby in the control condition who purchased (9%) than in either the time or money conditions (p 's $> .10$).

Second, an ANOVA conducted on customers' willingness to pay revealed a significant effect of condition ($F(1, 37) = 15.16, p < .001$). Customers in the time condition paid more for their cup of lemonade ($M = \$2.50$) than either those in the money condition ($M = \$1.38; p < .0001$) or those in the control condition ($M = \$2.18; p < .001$). Customers in the money condition paid significantly less than those in the control condition ($p < .001$).

Finally, an ANOVA conducted on customers' attitudes toward the product also revealed a significant effect of condition ($F(1, 37) = 6.46, p < .01$). Customers in the time condition reported more favorable attitudes towards the lemonade ($M = 6.71$) than either those in the money condition ($M = 5.74; p < .001$) or those in the control condition ($M = 6.44; p < .001$). Those in the money condition reported significantly less favorable attitudes than those in the control condition ($p < .05$).

In the context of a real business, conducted amongst a variety of consumers, this experiment shows that merely mentioning time, rather than money, in a product's marketing materials can make the very same product more alluring and better liked. The question remains *why* activating time (vs. money) has this favorable impact on consumers' decisions and attitudes. The following experiment, therefore, explores the mechanism driving the effect.

THE IPOD EXPERIMENT 2: WHY TIME > MONEY

Following-up on the previous field experiment, experiment 2 examined the basic effect of activating time versus money in a more controlled laboratory setting. To gain insight into the mechanism underlying the effect, we measured consumers' feelings of personal connection

with the product and examined participants' spontaneous thoughts generated by the activation of time or money.

Method

One hundred and fifteen Stanford University students (42% male, mean age = 20) were paid \$5 to participate in a consumer behavior study on iPods—a product in which the student sample had invested considerable amounts of both time and money. The experiment was a single-factor between-subjects design: the activated construct (time or money) was manipulated and a control condition (no question) was included.

All participants were presented with a questionnaire depicting the iPod logo at the top of the first page. Participants in the time condition were asked, “How much time have you spent on your iPod?” Participants in the money condition were asked, “How much money have you spent on your iPod?” Both groups responded to this initial priming question on a seven-point scale (1 = none at all, 7 = a lot). Participants in the control condition were not asked an initial question.

Next, to gain insight into the thinking associated with temporal versus monetary mindsets, participants were asked, “When considering your iPod, what thoughts come to your mind?” Participants then reported their attitudes toward iPod using the same three seven-point semantic differential scales as in experiment 1 ($\alpha = .90$). Then, participants were asked to report their feelings of personal connection to the product by rating the extent to which they agree with four statements: “Listening to my iPod represents who I am;” “...is a voluntary choice;” “...reflects the type of person I am;” and “...is an important priority for me” (1 = strongly disagree; 7 = strongly agree; $\alpha = .73$; Reed et al. 2007).

Finally, to control for the actual amount of time and money participants spent on their iPod, participants wrote the average number of hours they spent listening to their iPod per week, as well as the dollar amount they had spent on their iPod, including accessories. Participants who indicated that they did not actually own an iPod (7%) were removed from the analyses. Upon completing the questionnaire, participants were debriefed, paid, and thanked.

Results and Discussion

First, an ANCOVA was conducted on product attitudes, with the actual amount of time and money participants had spent on their iPods included as covariates. Although the actual amount of time spent revealed a positive main effect on product attitudes ($F(1, 102) = 6.05, p < .05$), neither covariate interacted with the independent variable (p 's $> .10$). More importantly, we found the predicted effect of condition ($F(2, 102) = 8.64, p < .001$). In support of hypothesis 1, pairwise comparisons revealed that participants led to think about time ($M = 6.28$) reported more favorable attitudes toward iPod than did participants led to think about money ($M = 5.28; p < .001$). Moreover, indicative of distinct effects of activating time versus activating money, the attitudes of participants in the control condition ($M = 5.81$) were significantly less favorable than those in the time condition ($p < .05$) and more favorable than of those in the money condition ($p < .05$). These results, therefore, suggest that irrespective of the actual amount of time or money one has spent on a product, leading consumers to think about time can boost product attitudes, whereas leading consumers to think about money with respect to the very same product can hurt product attitudes.

To gain insight into the underlying mechanism, we examined whether the time versus money effect was indeed driven by feelings of personal connection to the product. An ANCOVA on ratings of personal connection showed that the actual amount of time spent had a

main effect on personal connection ($F(1, 102) = 8.11, p < .01$), but neither covariate significantly interacted with the independent variable (p 's $> .10$). Importantly, we found the predicted effect of condition ($F(2, 102) = 15.30, p < .001$). Pairwise comparisons showed that participants in the time condition ($M = 5.14$) felt more connected to the product than did either those in the money condition ($M = 3.81; p < .001$) or those in the control condition ($M = 4.39; p < .01$). Additionally, those in the money condition felt less personally connected to the product than those in the control condition ($p < .05$).

Further, in support of hypothesis 2, a mediation analysis among participants in the time and money conditions revealed a mediating role of personal connection (Baron and Kenny 1986; Sobel 1982). First, product attitudes were regressed on condition ($\beta = -.44, t = -4.15, p < .001$). Next, personal connection was regressed on condition ($\beta = -.62, t = -6.71, p < .001$). Then, attitudes were regressed on personal connection ($\beta = .52, t = 5.19, p < .001$). Finally, attitudes were regressed on both condition and personal connection, and supportive of mediation, the effect of condition became insignificant ($\beta = -.19, t = -1.48, p > .10$) whereas the effect of personal connection remained highly significant ($\beta = .41, t = 3.19, p < .01$; Sobel $z = -4.11, p < .001$). Of note, when a mediation analysis was conducted with product attitudes as the mediator and personal connection as the dependent variable, the effect of condition remained significant ($p < .001$) when personal connection was regressed on both condition and product attitudes, and the Sobel test was weaker ($p < .05$). This overall pattern suggests that personal connection drives the effect on product attitudes, rather than product attitudes subsequently influencing feelings of personal connection.

To gain convergent evidence for this driving role of personal connection in the effect, two coders blind to the hypotheses read the thoughts participants generated and counted the number of personal references with respect to the product through mentions of “I,” “me,” or “my” ($\alpha = 1.00$). An ANCOVA on this index of personal connection revealed an effect of

condition ($F(2, 102) = 9.24, p < .001$), and a similar pattern as above: participants primed with time ($M = 1.22$) made more personal references than did participants primed with either money ($M = .57, p < .05$) or not primed at all ($M = .15, p < .001$). Participants in the money and control conditions differed marginally in their number of personal references ($p < .10$).

These results suggest that directing consumers' attention to time (vs. money) makes them more likely to think about their personal connection to that product, resulting in more favorable attitudes. However, one salient alternative explanation involves basic principles of valence. Perhaps thinking about spending money evokes negative thoughts (as it relates to the cost of acquiring the product), whereas thinking about spending time evokes more positive thoughts (as it relates to the benefits of consuming the product). In other words, not many would enjoy spending money to purchase a product, but people almost certainly would enjoy spending time using the product. We explored this possibility with three empirical approaches. First, we examined the valence of the thoughts generated by participants following the time and money manipulations, and found the ANCOVA's results to reveal insignificant effects of condition ($F_{\text{pos}}(2, 102) = 1.18, p > .10$; $F_{\text{neg}}(2, 102) = .09, p > .10$). Second, we conducted a second version of this experiment with one slight change in the manipulation. We asked participants ($N = 104$), "How much time [money] have you spent on your iPod—including buying it and downloading music?" Even with the additional phrase to encourage those in both the time and money conditions to think of their expenditures as costs, the results replicated, thereby casting further doubt on the alternative explanation. Finally, we designed experiment 3 as an even stronger test of the alternative account, addressing the question: Does the favorable effect of activating time (vs. money) persist when the activation of time is explicitly tied to the negative cost of owning the product?

THE FIXING LAPTOP EXPERIMENT 3:

IT'S NOT ABOUT COSTS VS. BENEFITS

Experiment 3 sought to disentangle the driving role of personal connection from an alternative account whereby the activation of money simply highlights costs whereas the activation of time highlights the benefits of product consumption. This experiment, therefore, examined whether the activation of time (vs. money) would lead to more favorable attitudes even when spending time, like money, was explicitly tied to a negative cost,

Method

Forty-two Berkeley students (45% male, mean age = 20) were paid \$5 to participate in a consumer survey about laptops. The experiment was a single-factor between-subjects design in which either time or money was activated via the first question on the survey. Participants in the time [money] condition were asked, "How much time [money] have you spent fixing your laptop?" Both groups responded to this initial priming question on a seven-point scale (1 = none at all, 7 = a lot). Next, participants shared their thoughts about their laptop. An analysis of these thoughts provided confidence in the manipulation, as the priming question made participants in both conditions think about costs accrued. For example, participants in the time condition wrote such thoughts as "frustrating, but it is worth it," and participants in the money condition wrote such thoughts as "well spent" and "frustration and anger." The one computer science major among the participants (for whom fixing his laptop was associated with his "love and passion") was excluded from the analyses.

Using the same scales as in experiment 2, participants then reported their attitudes toward their laptop ($\alpha = .89$) and their feelings of personal connection to their laptop ($\alpha = .70$). Finally, to control for the actual amount of time and money participants spent fixing their

laptops, participants wrote their estimates of the total number of hours they had spent, as well as the total dollar amount they had spent. Upon completing the questionnaire, participants were debriefed, paid, and thanked.

Results and Discussion

An ANCOVA conducted on product attitudes (with the actual amount of time and money participants had spent fixing their laptops included as covariates) revealed insignificant effects of the covariates (p 's $> .10$), but a significant effect of condition ($F(1, 37) = 4.74, p < .05$). In support of hypothesis 1, participants led to think about time ($M = 5.98$) reported more favorable attitudes toward their laptop than did participants led to think about money ($M = 5.25$). This suggests that even when the activation of time (like money) is explicitly tied to a cost, leading consumers to think about their time invested in a product results in more favorable attitudes towards that product than leading consumers to think about their money invested in the product. Further, this effect occurs irrespective of one's actual temporal or monetary investment in the product.

The results of the same ANCOVA conducted on participants' feelings of personal connection with their laptops revealed that participants led to think about time ($M = 5.07$) also felt more personally connected to their product than participants led to think about money ($M = 4.35; F(1, 37) = 4.08, p = .05$). (Neither covariate had an effect; p 's $> .10$). Further, in support of hypothesis 2, a mediation analysis revealed these feelings of personal connection to drive the effect of condition on product attitudes (Baron and Kenny 1986). First, product attitudes were regressed on condition ($\beta = -.33, t = -2.24, p < .03$). Next, personal connection was regressed on condition ($\beta = -.35, t = -2.39, p < .02$). Then, attitudes were regressed on personal connection ($\beta = .43, t = 2.97, p < .01$). Finally, when attitudes were regressed on both condition and personal

connection, the effect of condition became insignificant ($\beta = -.21, t = -1.39, p > .10$) whereas the effect of personal connection remained significant ($\beta = .35, t = 2.32, p < .05$).

These results reveal that activating time does not cause more favorable attitudes by merely leading consumers to think about the positive benefits of product consumption, whereas activating money causes more unfavorable attitudes by leading consumers to think about the negative costs from product ownership. Ruling out this alternative account, the favorable effect of activating time (vs. money) persists when the activation of time, like money, is explicitly tied to a negative cost. Instead, directing consumers' attention to time makes consumers feel more personally connected to the product, resulting in more favorable attitudes.

THE DESIGNER JEANS EXPERIMENT 4: THE ROLE OF PRODUCT TYPE

The experiments so far showed that for lemonade, iPods and laptops—all experiential products for which product usage is more important than product possession—activating time (vs. money) led to more favorable attitudes by increasing feelings of personal connection to the product. However, are there conditions where activating money (rather than time) leads to more favorable attitudes? Might there be particular types of products (e.g., prestige possessions) for which the mere act of spending money to own the product communicates more about one's personal identity than the experiences gained using the product? The objective of experiment 4 was to examine whether the “time vs. money effect” found for experiential products can be reversed for prestige possessions—where personal connection is more likely to stem from having than from using.

Method

One hundred and forty-two Stanford students (40% male, mean age = 20) participated in the experiment in exchange for \$5. The design utilized was a 3 (Prime: Time vs. Money vs. Control) x 2 (Purchase Type: Experience vs. Possession) between-subjects design. Participants were presented with a Consumer Survey where the first question contained the prime and purchase type manipulations. Randomly assigned, participants were asked to rate on a seven-point scale (1 = none at all, 7 = a lot) either how much *time* or how much *money* they had spent in the last year on either going out to restaurants (in the experience conditions) or on designer jeans (in the possession conditions; Khan and Dhar 2006; Van Boven and Gilovich 2003). Participants then reported their attitudes toward their purchase using the same three seven-point semantic differential scales as in the previous experiments ($\alpha = .89$). Participants in the control conditions were asked to report their attitudes without first being asked the priming question.

To tap the underlying process, we asked participants to rate their feelings of personal connection to the purchase using the same items as in experiments 2 and 3 ($\alpha = .90$). Next, adapted from Van Boven and Gilovich (2003), checks were included to assess the extent to which participants perceived their purchase to be “experiential (i.e. involves the acquisition of a life experience—an event or series of events that you personally encounter or live through)” and “material (i.e. a material possession—a tangible object that you obtain and keep in your possession)” (1 = not at all, 7 = a lot). To decrease concern of potential confounds, we also measured whether the purchase was seen as “hedonic (i.e., pleasant and fun)” and “utilitarian (i.e., useful, practical, functional)” (Dhar and Wertenbroch 2000). Participants perceived both purchases to be relatively hedonic ($M_{\text{restaurant}} = 5.55$ vs. $M_{\text{jeans}} = 5.23$; $F(1, 120) = 2.52, p > .10$) and not particularly utilitarian ($M_{\text{restaurant}} = 3.76$ vs. $M_{\text{jeans}} = 4.45$; $F(1, 120) = .84, p > .10$).

Finally, to control for the actual amount of time and money spent on the purchase, participants were asked to write the dollar amount they had spent, as well as the total number of hours they spent eating out at restaurants [wearing their jeans] in the last month. At the end of

the questionnaire, participants indicated whether they had eaten at a restaurant (100% had) and whether they owned a pair of designer jeans ($n = 14$ did not, and were eliminated from the analyses to decrease noise). Upon completion, participants were debriefed, paid, and thanked.

Results and Discussion

To test whether the manipulations operated as intended, a 3 (Prime: Time vs. Money vs. Control) x 2 (Purchase Type: Experience vs. Possession) ANCOVA was run on each purchase type check. As expected, participants considering going out to restaurants ($M = 4.79$) reported their purchase to be more experiential than participants considering their pair of jeans ($M = 2.83$; $F(1, 120) = 49.14, p < .001$). In turn, participants considering jeans ($M = 5.23$) reported their purchase to be more material than participants considering going out to restaurants ($M = 4.12$; $F(1, 120) = 8.83, p < .01$). No other effects were significant.

Next, to test the effects of activating time versus money for each type of purchase, a 3 (Prime) x 2 (Purchase Type) ANCOVA was conducted on purchase attitudes, with actual amount of time and money spent included as covariates. The results showed that although the actual amount of money spent had a main effect on attitudes ($F(1, 120) = 5.89, p < .05$), neither covariate interacted with the independent variable (p 's $> .10$). More importantly, we found the predicted interaction ($F(2, 120) = 14.57, p < .001$). Pairwise comparisons showed that amongst participants considering an experiential purchase, those primed with time ($M = 5.80$) reported more favorable attitudes than those primed with money ($M = 4.60; p < .001$) and than those in the control condition ($M = 5.14; p < .05$). Those primed with money had marginally less favorable attitudes than of those in the control condition ($p < .10$). However, for the prestige possession, the reverse effect occurred: Participants primed with money ($M = 5.89$) reported more favorable attitudes than those primed with time ($M = 4.43; p < .001$) and than those in the

control condition ($M = 4.95$; $p < .05$). There were no significant differences between the control condition and those primed with time ($p > .10$).

To examine why this pattern of results occurred, we conducted the ANCOVA on the personal connection index. Although the amount of money spent had a main effect ($F(1, 120) = 9.82$, $p < .01$), neither covariate interacted with the independent variable (p 's $> .10$). Moreover, the results revealed the expected interaction ($F(2, 120) = 10.30$, $p < .001$). Pairwise comparisons showed that for the prestige possession, greater feelings of personal connection were felt in the money prime condition ($M = 4.46$) than in the time condition ($M = 2.99$; $p < .01$) and than in the control ($M = 3.23$; $p < .05$). Time prime and the control did not differ ($p > .10$). For the experiential purchase, however, priming time led to increased feelings of personal connection compared to priming money ($M_{time} = 3.85$, $M_{money} = 2.65$; $p < .01$), and marginally greater feelings of personal connection than the control ($M_{time} = 3.85$, $M_{control} = 3.08$; $p < .10$). Money prime and the control did not differ ($p > .10$).

To more directly examine process, two sets of mediation analyses were conducted with personal connection as the mediator. The first set examined the effect of priming time versus money on attitudes towards the experiential purchase. The second set examined the effect of priming time versus money on attitudes towards the prestige possession. First, amongst participants considering an experiential purchase, attitudes were regressed on prime ($\beta = .54$, $t = 4.52$, $p < .001$). Next, personal connection was regressed on prime ($\beta = .41$, $t = 3.19$, $p < .01$). Then, attitudes were regressed on personal connection ($\beta = .62$, $t = 5.57$, $p < .001$). Finally, when attitudes were regressed on both prime and personal connection, the effect of prime significantly reduced ($\beta = .34$, $t = 3.03$, $p < .01$) whereas the effect of personal connection remained significant ($\beta = .48$, $t = 4.23$, $p < .001$; Sobel $z = 2.77$, $p < .01$), supportive of mediation.

Second, amongst participants considering a prestige possession, attitudes were regressed on prime ($\beta = -.50$, $t = -3.46$, $p = .001$). Next, personal connection was regressed on

prime ($\beta = -.44, t = -3.01, p < .01$). Then, attitudes were regressed on personal connection ($\beta = .67, t = 5.43, p < .001$). Finally, attitudes were regressed on both prime and personal connection, and supportive of mediation, the effect of prime significantly reduced ($\beta = -.25, t = -1.87, p > .05$) whereas the effect of personal connection remained highly significant ($\beta = .56, t = 4.19, p < .001$; Sobel $z = -2.63, p < .01$). Together these results suggest that feelings of personal connection drive consumers' attitudes. In the case of experiential purchases, priming time heightens these feelings of personal connection, thereby eliciting more favorable attitudes. However, for prestige possessions, priming money appears to heighten feelings of personal connection, resulting in more favorable attitudes.

THE CAR EXPERIMENT 5: THE ROLE OF CONSUMERS' MATERIALISM

The previous experiment compared product type, revealing that for experiential purchases, activating time leads to more favorable attitudes, but for prestige possessions, activating money leads to more favorable attitudes. To ensure that these differential effects were determined by the products' value as an experience versus a possession (rather than some other distinguishing feature), experiment 5 examined a single product that is experiential for some consumers, but more of a prestige possession for others—namely one's car. Indeed, this next experiment identified individuals who largely define themselves based on their possessions (i.e. materialists) to test if consumer type, like product type, can moderate the effect of activating time versus money on product attitudes.

Further, we examined whether the effects of drawing attention to time versus money persist with more subtle primes of the constructs—in part for generalizeability and in part to assuage concerns of demand (as participants should not be able to align their attitudes with any suspected hypotheses if the time and money manipulations occur outside of awareness). Thus,

we activated time and money using a supraliminal nonconscious priming technique (Chartrand and Bargh 1996) prior to measuring product attitudes.

Method

Sixty-four individuals from a national sample representing a range of ages (21 to 69 years; $M = 35$) and occupations (e.g., engineer, homemaker, student), and 36% of whom were male, participated in the online experiment in exchange for \$5.

A week prior to the experiment, participants completed a battery of scales including an 18-item individual difference measure of materialism, which was used to identify individuals who highly value possessions as an indicator of self worth ($\alpha = .91$; Richins and Dawson 1992). For these materialistic individuals, the value of consumption comes more from possession than from usage, and possessions communicate one's level of prestige (Richins 1994). Indeed, participants who scored high on the materialism scale ($M = 5.17$) valued owning their car (in terms of pride of ownership, prestige, and financial investment; $\alpha = .81$) more than participants low on the materialism scale ($M = 3.93$), ($F(1, 65) = 13.86, p < .001$). Participants who scored low on the materialism scale ($M = 6.34$) valued their experience using their car (in terms of comfort, how well it drives, and how useful it is; $\alpha = .79$) more than high materialism participants ($M = 5.85$), ($F(1, 65) = 5.53, p < .05$).

The results of a paper-pencil Implicit Association Test conducted amongst a separate group of individuals ($N = 40$), sampled from the same population as this experiment's participants, provided strong conceptual support for the relevance of individuals' level of materialism in the effects of activating time versus money. These individuals were given 20 seconds to categorize as many words as possible from a list of time versus money related words and self versus non-self related words by placing them into one of two columns (self or time vs.

non-self or money; self or money vs. non-self or time). The individuals' level of materialism significantly influenced how easily they could categorize self-related words ($F(1, 38) = 12.23$, $p = .001$). Individuals who scored low on the materialism scale correctly categorized more self-related words when they were to be placed in the same column as the time-related words ($M = 9.77$) than when they were to be placed in the same column as the money-related words ($M = 8.36$; $p = .01$). In contrast, individuals who scored high on the materialism scale correctly categorized more self-related words when they were to be placed in the same column as the money-related words ($M = 10.11$) than when they were to be placed in the same column as the time-related words ($M = 8.78$; $p < .05$). These results reveal that low materialists more closely associate the self with time than with money, whereas high materialists more closely associate the self with money than with time. Importantly, this ancillary study not only shows that time and money assume different meaning for materialists and non-materialists; it also shows how fundamental the concept of the self is in these meanings.

Just before beginning the advertised Car Survey, participants were asked to complete an ostensibly unrelated questionnaire that was described as measuring how people construct meaningful English sentences. Based on this pretense, participants completed a sentence construction task (adapted from Srull and Wyer 1979), during which they were exposed to primes of either time or money. First, participants were given 18 sets of four randomly arranged words and were told that the words in each set could be used to form two different three-word sentences. Their task was to underline the three words that composed the first sentence which came to mind. The sentences formed from nine of the sets were filler items; the remaining nine items included words associated with either time or money. For example, participants in the time condition were asked to construct a sentence out of the sets of words: *sheets the change clock* and *are they old we*; participants in the money condition were asked to construct a

sentence out of the sets of words: *sheets the change price* and *are they wealthy we*. All were given three minutes to construct as many sentences as possible.

Next, on the same scales used in the previous experiments, participants completed the Car Survey where they reported their attitudes toward their car ($\alpha = .92$) and feelings of personal connection ($\alpha = .91$). To control for the actual amount of time and money participants had invested in their cars, they wrote the dollar amount paid for their car as well as the average number of hours per week they spent driving. Upon completing the survey, participants were debriefed, paid, and thanked.

Results and Discussion

To assess whether priming time versus money affects product attitudes differently for individuals who largely define themselves by their possessions, participants' attitudes towards their cars were regressed on prime, participants' materialism score, and the interaction between the two, controlling for the actual amount of time and money participants spent on their cars. The results revealed only the interaction between prime and level of materialism to significantly influence product attitudes ($\beta = -.53, t = -4.36, p < .001$; see figure 2). Indeed, none of the other variables—actual amount of time spent ($\beta = -.13, t = -1.10, p > .10$), actual amount of money spent ($\beta = .09, t = .73, p > .10$), prime ($\beta = -.07, t = -.64, p > .10$), or materialism ($\beta = -.03, t = -.28, p > .10$)—showed main effects. To more closely examine the interaction, a spotlight analysis was performed at one standard deviation below the mean of materialism revealing a significant difference ($\beta = 0.56, t = 2.84, p < .01$): low materialists reported more favorable attitudes towards their cars when primed with time than when primed with money. A similar spotlight analysis performed at one standard deviation above the mean of materialism also revealed a significant difference ($\beta = -0.74, t = -3.58, p < .001$): high

materialists reported more favorable attitudes towards their cars when primed with money than when primed with time.

 Insert figure 2 about here

To examine why this pattern of results occurred, we regressed participants' feelings of personal connection with their cars on the same set of variables: prime, materialism, the interaction between prime and materialism—again controlling for the actual amount of time and money participants spent on their cars. As expected, the results revealed only an interaction effect ($\beta = -.38, t = -3.04, p < .01$). None of the other variables—actual amount of time spent ($\beta = -.07, t = -.60, p > .10$), actual amount of money spent ($\beta = .15, t = 1.19, p > .10$), prime alone ($\beta = -.05, t = -.45, p > .10$), or materialism alone ($\beta = .13, t = 1.04, p > .10$)—showed significant effects. Again, to more closely examine the interaction effect, a spotlight analysis was performed at one standard deviation below the mean of materialism revealing a significant difference ($\beta = 0.49, t = 1.97, p = .05$): low materialists felt more connected to their cars when primed with time than when primed with money. A similar spotlight analysis performed at one standard deviation above the mean of materialism revealed a significant difference ($\beta = -0.64, t = -2.52, p < .05$) such that high materialists felt more connected to their cars when primed with money than when primed with time.

Finally, two sets of mediation analyses were conducted with personal connection as the mediator. Using a median split to distinguish participants who were highly materialistic from those who were not, the first set of analyses examined the effect of priming time versus money amongst the low materialists. First, attitudes were regressed on prime ($\beta = .35, t = 2.05, p < .05$). Next, personal connection was regressed on prime ($\beta = .37, t = 2.17, p < .05$). Then, attitudes were regressed on personal connection ($\beta = .81, t = 7.57, p < .001$). Finally, when

attitudes were regressed on both prime and personal connection, the effect of prime became insignificant ($\beta = .06, t = .51, p > .10$) whereas the effect of personal connection remained significant ($\beta = .79, t = 6.76, p < .001$; Sobel $z = 2.09, p < .05$), supportive of mediation.

Second, amongst the high materialists, product attitudes were regressed on prime ($\beta = -.48, t = -3.12, p < .01$). Next, personal connection was regressed on prime ($\beta = -.36, t = -2.17, p < .05$). Then, attitudes were regressed on personal connection ($\beta = .86, t = 9.37, p < .001$). Finally, when attitudes were regressed on both prime and personal connection, the effect of prime significantly reduced ($\beta = -.20, t = -2.19, p > .01$) whereas the effect of personal connection remained highly significant ($\beta = .78, t = 8.47, p < .001$; Sobel $z = -2.11, p < .05$), supportive of mediation.

Together these results showed that for all participants—both those high and low in materialism—feelings of personal connection drove attitudes towards one's car. Importantly, however, these feelings of personal connection were differently activated for the two types of consumers. For materialists (those who highly value the mere possession of their car), activating money fostered feelings of personal connection, thus leading to more favorable attitudes. However, for the others who largely value the experience of using their car, activating time increased feelings of personal connection, in turn boosting attitudes. Thus, these findings support our proposition that the influence of activating time (vs. money) on attitudes depends on where consumers extract their feelings of personal connection with the product—either product experience or product possession.

GENERAL DISCUSSION

The findings of five field and lab experiments show that product decisions and attitudes can be shifted by what is as subtle and as pervasive as mere references to time and money.

Indeed, activating time (vs. money) tends to lead to more favorable product attitudes and decisions. This “time vs. money effect” is driven by heightened personal connection that consumers feel towards products (i.e., the extent to which the product is “me”). Typically these feelings of personal connection result from focusing on one’s experiences gained using the product, which become highlighted by mentions of time. However, for certain products (i.e., prestige possessions) and certain consumers (i.e., materialists), feelings of personal connection stem more from mere possession of the product, which becomes highlighted by mentions of money. Therefore, in these particular instances, activating money (rather than time) leads to more favorable effects. So, whether activating time or money boosts product attitudes and decisions depends on where consumers extract their feelings of personal connection with the product: experience or possession. Further, this “time vs. money effect” not only occurs when consumers are led to think about the amount of time or money spent on the product (experiments 1 - 4), but is robust across more subtle manipulations—where the constructs are activated nonconsciously (experiment 5).

Shifting Product Attitudes

These findings support recent research suggesting that one’s investment of time and money are not subjectively equivalent (Devoe and Pfeffer 2007a; 2007b), and extend it by identifying the downstream effects of considering one’s investment of each. One insight gained is that time and money do not just differ in terms of their ambiguity or fungability (Leclerc et al. 1995; Okada and Hoch 2004; Saini and Monga 2008) or their quantifiable subjective valuations (Zauberman and Lynch 2005). Importantly, they also differ in the degree to which they tap personal processes (Reed et al. 2007). Moreover, the degree to which consumers are

made to feel personally connected to their products impacts their attitudes toward the product—revealing an interesting instability of consumers' attitudes.

How might we reconcile these findings showing that consumers' attitudes towards the products they know and use can shift quite easily with the traditional view of attitudes as evaluations that are stored in memory, that persist over time, and that systematically influence information processing (Sherif and Cantril 1947; Wilson, Lindsay, and Schooler 2000)? One way to couch the current findings is in the context of decision making research which highlights the power of contextual manipulations (e.g., option framing, choice set construction) to shift preferences (Simonson 1989; Simonson and Tversky 1992). We contribute to this stream by showing that something as subtle as the conscious or nonconscious activation of a particular construct can influence how consumers evaluate products. Indeed, the psychological context in which attitudes are elicited seems to matter.

More specifically, this research shows that activating time (vs. money) can boost consumers' attitudes towards experiential products by leading individuals to focus on their experiences gained with the product. However, another possible explanation for this effect is that the specific constructs, time and money, are valenced as they apply to consumer products. One might argue that money is always negative because it involves the costs associated with acquiring a product, whereas time is typically positive because it involves the benefits of consuming the product. Although we have provided evidence to suggest that this account is unlikely (experiments 2 and 3), it begs an interesting question: Would the favorable effect of activating time (vs. money) also occur if the product was free and one's temporal expenditure was a cost?

To examine this question, we conducted a field experiment at an outdoor music concert in San Francisco. The concert was free and required extensive amounts of time waiting in line to ensure getting decent seats ($M = 2.82$ hrs). Prior to the start of the concert, we activated time

or money by asking random individuals standing in the queue either: “How much time will you have spent (before the concert starts) to see this concert today?” or “How much money will you have spent in order to see this concert today?” Even in this case where time spent was a cost, activating time led to more favorable product attitudes than activating money.

Notably, this “time vs. money effect” found amongst the concert-goers occurred irrespective of the actual amount of time the participants spent waiting in line, suggesting that it is not one of self-perception. In fact, controlling for the amount of time and money individuals actually invested in the product across all of the reported experiments, we found that the effect was not influenced by the amount of either resource spent. Therefore, it is unlikely that participants merely deduced their liking of the product by considering the amount of time (or money) they were willing to spend on it. As further evidence against a self-perception explanation, we found the effect of activating time versus money to extend from a manipulation in which we asked participants to consider how much time or money they had spent on the product to a nonconscious priming technique. Simply making people think about time versus money (in general) can shift attitudes towards whatever product is under consideration. Furthermore, this effect is robust enough to play out in the noisy environment of the real world, when the product is consumed in real-time. For example, Mogilner and Aaker (2008) employed the same nonconscious priming technique as used in experiment 5 to activate either time or money amongst consumers entering a café. The results revealed that upon exiting the café, those who had been primed with time reported significantly more favorable attitudes towards the café than those who had been primed with money.

Even though the “time vs. money effect” does not appear to be driven by self-perception, the effect has important implications for the vast literature on intrapersonal consistency, which is built on the premise that individuals are motivated towards consistency between their attitudes and behavior. When the two are inconsistent, individuals shift their

attitudes to more closely align with their behavior (Festinger 1957). Our work contributes to this stream of research by showing that an expenditure of time (vs. money) is generally more closely connected to the self—an effect that seems to result in differential motivation to shift attitudes. So, although consistency paradigms have tended to interchange temporal and monetary spending as their behavioral manipulations (Festinger and Carlsmith 1959), the current findings suggest that time might be a greater source of dissonance than money, and thus a stronger driver of individuals' ultimate attitudes.

The Role of Personal Connection

The role of personal connection is sizeable and consistent across these studies. However, the exact role played by personal connection still merits additional examination. Perhaps the closer one feels with the product, the more favorable one's attitudes, which then further fuels feelings of connection. Although such an infectious mechanism remains unexplored in this work, some empirical evidence sheds light on this question. For instance, the results of experiment 2 reveal a better fit when personal connection was the mediator and product attitudes the dependent variable (relative to when product attitudes were the mediator and personal connection was the dependent variable). However, to more carefully examine the potential bi-directionality of the personal connection-attitudes relationship, longitudinal research that systematically measures both constructs across time is needed.

Perhaps more interestingly, future work could disentangle personal connection from (positive) attitudes. For example, in the case of food addictions, cigarette addictions, or even certain consumer-brand relationships (e.g., Microsoft), the consumer might experience close personal connection with the product but hold negative attitudes toward that product

(Ramanathan and Williams 2007). In such cases, where increased personal connection is undesirable, evoking time (vs. money) might lead to *less* favorable attitudes.

From an applied perspective, this research sheds light on a construct that marketing practitioners are eagerly trying to get a grasp on—consumer engagement. Motivated to strengthen their relationships with customers, marketers often feel they must increase the degree to which consumers' feel connected to the brand (Fournier 1998). However, little is known about how to boost consumers' sense of engagement with the brands they use, let alone what engagement is. Akin to research on interpersonal relationships which shows that strong relationships are ones wherein partners spend time together (Aron et al. 2000), the current results suggest that consumers' engagement with a brand is tied to the time consumers spend with it. Therefore, to actively foster feelings of connection, brands should draw consumers' attention to their time spent and thus their experiences gained with the brand. Notably, however, not all brands or products will benefit from time shared with the consumer. We found that for prestige possessions, highlighting a large outlay of money appears to increase consumers' sense of personal connection. This research, therefore, more precisely suggests that brands can cultivate their consumer relationships by first considering how consumers most identify with the product (through experience or possession), and then highlighting either their time or money spent accordingly.

Future Directions

This research poses several other intriguing questions that merit follow-on work. First, a deeper dive into the role of personal connection within the broader concept of personal meaning is needed. Here we find evidence supporting the link between time and personal meaning—and more specifically, its link to personal connection. A more general question is thus posed: To what

degree does personal meaning connote self-reflection (Reed et al. 2007), personal experience (Van Boven and Gilovich 2003), socio-emotional fulfillment (Carstensen et al. 1999), or personal happiness (Liu and Aaker 2008)? How easily can these facets be parsed out, and under what conditions will each loom larger? Relatedly, what are antecedents other than the activation of time that can prompt personal meaning (Aaker, Liu, and Mogilner 2008)?

The current findings revealed that in the context of product perceptions, thinking about time (vs. money) increases feelings of personal connection, which then manifests in more favorable attitudes. In the context of charitable giving, thinking about contributing time (vs. money) to an organization is associated with greater personal happiness, and thus greater giving (Liu and Aaker 2008; relatedly, see Devoe and Pfeffer 2007a). In the context of decision making, Saini and Monga (2008) demonstrated that thinking about spending time (vs. money) results in a greater reliance on heuristics and less cognitive processing. Taking a step back from these findings, each in their distinct contexts with distinct mechanisms and dependent variables, there appears to be an overarching theme. Namely, individuals in a temporal mindset apparently weigh emotional factors more heavily than individuals in a monetary mindset, who seem more objective in their processing. With the growing number of studies comparing the effects of thinking about time versus money, efforts should be made to examine the broader emotional role of time and the more utilitarian role of money in consumers' attitudes, behaviors, and decision making. For example, why does time (vs. money) appear to be more emotionally-charged? The current research suggests that one reason is because time tends to be more personal. Thus, one moderator for the time-ask effect (Liu and Aaker 2008) may be the personal versus impersonal nature of an "ask" (e.g., "we need help in raising money" vs. "we need your help in raising money").

Boundary conditions of the "time vs. money effect" imposed by cultural contexts are another promising avenue to explore. Of theoretic interest is whether the effect remains robust in

cultures where the meaning of money and time fundamentally differ, as does the relationship of time and money to life satisfaction. For example, Williams and Lee (2007) demonstrate that individuals with highly interdependent selves (e.g., Chinese participants) report higher life satisfaction when they enjoyed high relationship wealth (e.g., having the time to do things they enjoyed), whereas individuals with highly independent selves report higher life satisfaction when they enjoyed high material wealth (e.g., luxury items that make life more comfortable). Such findings suggest that the favorable effects of activating time (vs. money) documented in this research may become stronger in cultures where an interdependent self is fostered.

Finally, this work speaks to prior findings that purchasing experiences rather than material goods leaves consumers happier, pointing out that the dichotomy between experiential and material purchases may not be so clear (Van Boven and Gilovich 2003). Indeed, leading consumers to reflect on the experiential versus material aspects of the very same purchase (through activating time, rather than money) can allow consumers to extract greater happiness from their purchases. Important next steps would explore the possibility that activating time (vs. money) might also (a) lead to a greater focus on experiences more generally (Mogilner and Aaker 2008) and (b) motivate consumers to choose to spend their money on experiences over material good—thus bringing them greater happiness (Mogilner 2008). So, whether it is through changing one's perceptions or behavior, this research stream hints that to be happier, it may be better (in general) to think in terms of time than in terms of money.

APPENDIX

EXPERIMENT 1 SETUP: THE LEMONADE STAND



REFERENCES

- Aaker, Jennifer (1999), "The Malleable Self: The Role of Self-Expression in Persuasion," *Journal of Marketing Research*, 36 (February), 45-57.
- Aaker, Jennifer, Wendy Liu, and Cassie Mogilner (2008), "Giving Meaning to One's Own Life by Giving to Others," working paper, Stanford Graduate School of Business, Stanford, CA 94305.
- Adler, Nancy E. and Alana Conner Snibbe (2003), "The Role of Psychosocial Processes in Explaining the Gradient Between Socioeconomic Status and Health," *Current Directions in Psychological Science*, 12 (August), 119-23.
- Allport, Gordon W. (1961), *Pattern and Growth in Personality*, New York: Holt, Rinehart, and Winston.
- Aron, Arthur, Christina Norman, Elaine Aron, Colin McKenna, and Richard E. Heyman (2000), "Couples' Shared Participation in Novel and Arousing Activities and Experienced Relationship Quality," *Journal of Personality and Social Psychology*, 78 (Feb), 273-84.
- Baron, Reuben and David Kenny (1986), "The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations," *Journal of Personality and Social Psychology*, 51 (December), 1173-82.
- Bearden, William and Michael J. Etzel (1982), "Reference Group Influence on Product and Brand Purchase Decisions," *Journal of Consumer Research*, 9 (September), 183-94.
- Beggan, James (1992), "On the Social Nature of Nonsocial Perception: The Mere Ownership Effect," *Journal of Personality and Social Psychology*, 62 (February), 229-37.
- Belk, Russell W. (1988), "Possessions and the Extended Self," *Journal of Consumer Research*, 15 (September), 139-68.
- Bergadaa, Michelle M. (1990), "The Role of Time in the Action of the Consumer," *Journal of Consumer Research*, 17 (December), 289-302.

- Carstensen, Laura L., Derek M. Isaacowitz, and Susan T. Charles (1999), "Taking Time Seriously: A Theory of Socioemotional Selectivity," *American Psychologist*, 54 (March), 165-81.
- Chartrand, Tanya L. and John A. Bargh (1996), "Automatic Activation of Impression Formation and Memorization Goals: Nonconscious Goal Priming Reproduces Effects of Explicit Task Instructions," *Journal of Personality and Social Psychology*, 71 (September), 464-78.
- DeVoe, Sanford E. and Jeffrey Pfeffer (2007), "Hourly Payment and Volunteering: The Effect of Organizational Practices on Decisions about Time Use," *Academy of Management Journal*, 50 (August), 783-98.
- _____ (2007), "When Time is Money: The Effect of Hourly Payment on the Evaluation of Time," *Organizational Behavior and Human Decision Processes*, 104 (September), 1-13.
- Dhar, Ravi and Klaus Wertenbroch (2000), "Consumer Choice Between Hedonic and Utilitarian Goods," *Journal of Marketing Research*, 37 (February), 60-71.
- Diener, Ed and Martin E. P. Seligman (2004), "Beyond Money: Toward an Economy of Well-Being," *Psychological Science in the Public Interest*, 5 (July), 1-31.
- Dunn, Elizabeth W., Lara B. Aknin, and Michael I. Norton (2008), "Spending Money on Others Promotes Happiness," *Science*, 319 (March), 1687-88.
- Escalas, Jennifer E. and James R. Bettman (2005), "Self-Construal, Reference Groups, and Brand Meaning," *Journal of Consumer Research*, 32 (December), 378-89.
- Ferraro, Rosellina, Baba Shiv, and James R. Bettman (2005), "Let Us Eat and Drink, for Tomorrow We Shall Die: Effects of Mortality Salience and Self-Esteem on Self-Regulation in Consumer Choice," *Journal of Consumer Research*, 32 (June), 65-75.
- Festinger, Leon (1957), *A Theory of Cognitive Dissonance*, Stanford, CA: Stanford University Press.

- Festinger, Leon and James M. Carlsmith (1959), "Cognitive Consequences of Forced Compliance," *Journal of Abnormal Psychology*, 58 (March), 203-10.
- Fournier, Susan (1998), "Consumers and their Brands: Developing Relationship Theory in Consumer Research," *Journal of Consumer Research*, 24 (March), 343-73.
- Greenwald, Anthony G. and Mahzarin R. Banaji (1995), "Implicit Social Cognition: Attitudes, Self-Esteem, and Stereotypes," *Psychological Review*, 102 (January), 4-27.
- Heath, Chip and Jack B. Soll (1996), "Mental Budgeting and Consumer Decisions," *The Journal of Consumer Research*, 23 (June), 40-52.
- Hetts, John J., Michiko Sakuma, and Brett W. Pelham (1999), "Two Roads to Positive Regard: Implicit and Explicit Self-Evaluation and Culture," *Journal of Experimental Social Psychology*, 35 (November), 512-59.
- James, Williams (1890), *The Principles of Psychology*, Vol. 1, New York: Henry Holt.
- Kahneman, Daniel and Amos Tversky (1979), "Prospect Theory: An Analysis of Decision Under Risk," *Econometrica*, 47(March), 263-92.
- Khan, Uzma and Ravi Dhar (2006), "Licensing Effect in Consumer Choice," *Journal of Marketing Research*, 43 (May), 259-66.
- Kirmani, Amna and Peter Wright (1989), "Money Talks: Perceived Advertising Expense and Expected Product Quality," *Journal of Consumer Research*, 16 (December), 344-53.
- Kleine, Susan S., Robert E. Kleine III, and Chris T. Allen (1995), "How Is a Possession 'Me' or 'Not Me'? Characterizing Types and an Antecedent of Material Possession Attachment," *Journal of Consumer Research*, 22 (December), 327-43.
- Lea, Stephen and Paul Webley (2006), "Money as Tool, Money as Drug: The Biological Psychology of a Strong Incentive," *Behavioral and Brain Sciences*, 29 (April), 161-209.

- LeBoeuf, Robyn (2006), "Discount Rates for Time Versus Dates: The Sensitivity of Discounting to Time-Interval Description," *Journal of Marketing Research*, 43 (February), 59-72.
- Leclerc, France, Bernd Schmitt, and Laurette Dube (1995), "Waiting Time and Decision Making: Is Time like Money?" *Journal of Consumer Research*, 22 (June), 110-19.
- Liu, Wendy and Jennifer Aaker (2007), "Do You Look to the Future or Focus on Today? The Impact of Life Experience on Intertemporal Choice," *Organizational Behavior and Human Decision Processes*, 102 (March), 212-25.
- Liu, Wendy and Jennifer Aaker (2008), "The Happiness of Giving: The Time-Ask Effect," forthcoming in the *Journal of Consumer Research*.
- Loewenstein, George (1987), "Anticipation and the Valuation of Delayed Consumption," *Economic Journal*, 97 (September), 666-84.
- Malkoc, Selin A. and Gal Zauberman (2006), "Deferring versus Expediting Consumption: The Effect of Outcome Concreteness on Sensitivity to Time Horizon," *Journal of Marketing Research*, 43 (November), 618-27.
- Miller, Dale T., Julie S. Downs, and Deborah A. Prentice (1998), "Minimal Conditions for the Creation of a Unit Relationship: The Social Bond between Birthdaymates," *European Journal of Social Psychology*, 28 (May/June), 475-81.
- Mogilner, Cassie (2008), "The Role of Time vs. Money in the Pursuit of Happiness," working paper, Stanford Graduate School of Business, Stanford, CA 94305.
- Mogilner, Cassie and Jennifer Aaker (2008), "Doing vs. Having: The Impact of Time vs. Money," working paper, Stanford Graduate School of Business, Stanford, CA 94305.
- Mogilner, Cassie, Jennifer Aaker, and Ginger Pennington (2008), "Time Will Tell: The Distant Appeal of Promotion and Imminent Appeal of Prevention," *Journal of Consumer Research*, 34 (February), 670-81.

- Nuttin, Jozef M. Jr. (1985), "Narcissism Beyond Gestalt and Awareness: The Name Letter Effect," *European Journal of Social Psychology*, 15 (July/September), 353-61.
- Okada, Erica Mina (2005), "Justification Effects on Consumer Choice of Hedonic and Utilitarian Goods," *Journal of Marketing Research*, 42 (February), 43-53.
- Okada, Erica Mina and Stephen J. Hoch (2004), "Spending Time versus Spending Money," *Journal of Consumer Research*, 31 (September), 313-23.
- Paulus, Delroy and Karen Levitt (1987). "Desirable Responding Triggered by Affect: Automatic Egotism?" *Journal of Personality and Social Psychology*, 52 (Feb), 245-59.
- Pfeffer, Jeffrey and Sanford DeVoe (2008), "Economic Evaluation: The Effect of Money and Economics on Attitudes about Volunteering," forthcoming in *Journal of Economic Psychology*.
- Ray, Souray (2008), "The Changing Nature of Luxury Goods and Services in China," <http://www.wpp.com/WPP/Marketing/ReportsStudies/IamnotrichbutIdeserveit.htm>.
- Reed, Americus II (2004), "Activating the Self-Importance of Consumer Selves: Exploring Identity Salience Effects on Judgments," *Journal of Consumer Research*, 31 (September), 286-95.
- Reed, Americus II, Karl Aquino and Eric Levy (2007), "Moral Identity and Judgments of Charitable Behaviors," *Journal of Marketing*, 71 (January), 178-93.
- Richins, Marsha L. (1994), "Special Possessions and the Expression of Material Values," *Journal of Consumer Research*, 21 (December), 522-33.
- Richins, Marsha L. and Scott Dawson (1992), "A Consumer Values Orientation for Materialism and its Measurement: Scale Development and Validation," *Journal of Consumer Research*, 19 (December), 303-16.

- Saini, Ritesh and Ashwani Monga (2008), "How I Decide Depends on What I Spend: Use of Heuristics is Greater for Time than for Money," *Journal of Consumer Research*, 34 (April), 914-22.
- Sherif, Muzafer and Hadley Cantril (1947), *The Psychology of Ego Involvements: Social Attitudes and Identifications*, New York: Wiley.
- Silverstein, Michael, Neil Fiske and John Butman (2005), *Trading Up: Why Consumers Want New Luxury Goods – and How Companies Create Them*, New York: Portfolio.
- Simonson, Itamar (1989), "Choice Based on Reasons: The Case of Attraction and Compromise Effects," *Journal of Consumer Research*, 16 (September), 158-74
- Simonson, Itamar and Amos Tversky (1992), "Choice in Context: Tradeoff Contrast and Extremeness Aversion," *Journal of Marketing Research*, 29 (August), 281-95.
- Sobel, Michael E. (1982), "Asymptotic Confidence Intervals for Indirect Effects in Structural Equations Models," in *Sociological Methodology*, Vol. 13, ed. Samuel Leinhardt, San Francisco, CA: Jossey-Bass, 290-312.
- Soman, Dilip (2001), "The Mental Accounting of Sunk Time Costs: Why Time is not Like Money," *Journal of Behavioral Decision Making*, 14 (July), 169-85.
- Strull, Thomas K. and Robert S. Wyer (1979), "The Role of Category Accessibility in the Interpretation of Information about Persons: Some Determinants and Implications," *Journal of Personality and Social Psychology*, 37 (October), 1660-72.
- Taylor, Shelley and Jonathon Brown (1988), "Illusion and Well-Being: A Social Psychological Perspective on Mental Health," *Psychological Bulletin*, 103 (March), 193-210.
- Thaler, Richard H. (1985), "Mental Accounting and Consumer Choice," *Marketing Science*, 4 (May-June), 199-214.
- Trope, Yaacov and Nira Liberman (2000), "Temporal Construal and Time-Dependent Changes in Preference," *Journal of Personality and Social Psychology*, 79 (December), 876-89.

- Van Boven, Leaf and Laurence Ashworth (2007), "Looking Forward, Looking Back: Anticipation is More Evocative than Retrospection," *Journal of Experimental Psychology: General*, 136 (May), 289-300.
- Van Boven, Leaf and Thomas Gilovich (2003), "To Do or To Have: That is the Question," *Journal of Personality and Social Psychology*, 85 (December), 1193-1202.
- Vohs, Kathleen D., Nicole L. Mead and Miranda R. Goode (2006), "The Psychological Consequences of Money," *Science*, 314 (November), 1154-56.
- Williams, Patti and Aimee Drolet (2005), "Age-Related Differences in Responses to Emotional Advertisements," *Journal of Consumer Research*, 32 (Dec), 343-54.
- Williams, Tonya P. and Angela Y. Lee (2007), "Me and Benjamin: Transaction versus Relationship Wealth in Subjective Well-being," working paper, Kellogg School of Management, Northwestern University, Evanston, IL 60208.
- Wilson, Timothy D., Samuel Lindsey, and Tonya Y. Schooler (2000), "A Model of Dual Attitudes," *Psychological Review*, 107 (January), 101-26.
- Zauberman, Gal and John G. Lynch, Jr. (2005), "Resource Slack and Propensity to Discount Delayed Investments of Time versus Money," *Journal of Experimental Psychology: General*, 134 (February), 23-37.

FIGURES LEGEND PAGE

FIGURE 1

CONCEPTUAL MODEL FOR THE EFFECT OF ACTIVATING TIME VS. MONEY

FIGURE 2

EXPERIMENT 5: MODERATING ROLE OF MATERIALISM IN THE TIME VS. MONEY EFFECT

FIGURE 1

CONCEPTUAL MODEL FOR THE EFFECT OF ACTIVATING TIME VS. MONEY

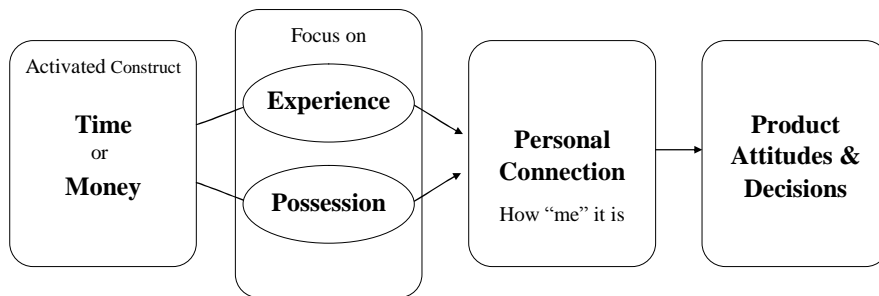
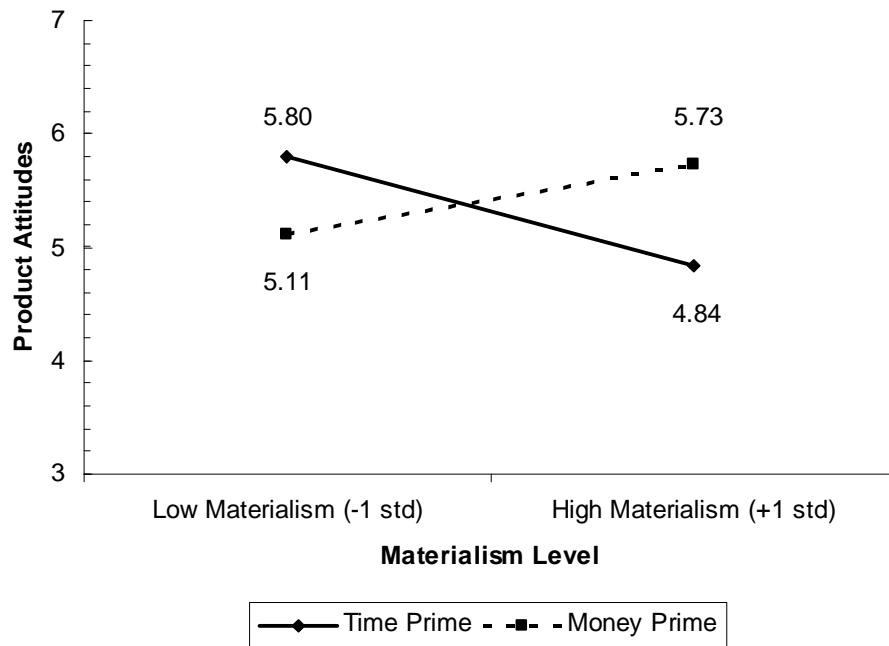


FIGURE 2

EXPERIMENT 5: MODERATING ROLE OF MATERIALISM IN THE TIME VS. MONEY EFFECT



HEADINGS LIST

1. **THE PSYCHOLOGY OF TIME AND MONEY**
2. Personally Connecting through Time vs. Money
2. Effect of Personal Connection on Product Attitudes and Decisions
1. **THE LEMONADE EXPERIMENT 1: WHEN TIME > MONEY**
2. Method
2. Results and Discussion
1. **THE IPOD EXPERIMENT 2: WHY TIME > MONEY**
2. Method
2. Results and Discussion
1. **THE FIXING LAPTOP EXPERIMENT 3: IT'S NOT ABOUT COSTS VS. BENEFITS**
2. Method
2. Results and Discussion
1. **THE DESIGNER JEANS EXPERIMENT 4: THE ROLE OF PRODUCT TYPE**
2. Method
2. Results and Discussion
1. **THE CAR EXPERIMENT 5: THE ROLE OF CONSUMERS' MATERIALISM**
2. Method
2. Results and Discussion
1. **GENERAL DISCUSSION**
2. Shifting Product Attitudes
2. The Role of Personal Connection
2. Future Directions
1. **APPENDIX**
1. **REFERENCES**
1. **FIGURES LEGEND PAGE**
1. **FIGURE 1**
1. **FIGURE 2**