Essays on Enhancing Consumer Welfare

My dissertation is composed of three papers on the topic of improving consumer welfare—that is, designing psychologically informed interventions to help consumers make decisions that can improve their financial wellbeing and enhance their interpersonal relationships with others and with firms. The first paper ("Repayment-by-Purchase" Helps Consumers to Reduce Credit Card Debt) introduces an intervention that allows consumers to make payments toward specific purchases on a credit card bill (repayment-by-purchase), which leads consumers to become more aware of the purchases they are "paying off" and to pay significantly more toward debt relative to making a payment toward the total balance (typical repayment). The second paper (Voting for Charity and Consumer-Firm Relationships) examines the impact of allowing customers to vote for the charitable recipient of firm donations. The invitation to vote for charity increases consumer attachment to the firm, leading to more spending in the store. The third paper (Communicating Resource Scarcity) evaluates how perceptions of trustworthiness and interpersonal connection are influenced by communication about limited money (e.g., "I don't have money") and time (e.g., "I don't have time"). Communicating money constraints (but not time) increases trust and interpersonal connection because money is seen as outside of one's personal control. I conclude with a discussion of my future research agenda.

Contents

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Repayment-by-Purchase Helps Consumers Reduce Credit Card Debt

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Abstract

Many consumers struggle to repay their credit card debt, in part because paying small portions of large bills often feels fruitless. We introduce a novel credit card payment option – repayment-by-purchase – and examine its influence on both the amount consumers repay and their perception of progress toward reducing their debt. With typical repayment, consumers simply enter the amount they wish to pay toward their total balance – often the minimum required payment. With repayment-by-purchase, in contrast, consumers can select specific purchases (e.g., a coffee at Starbucks, a utility bill) that they wish to repay, and make payments specifically directed toward "eliminating" these purchases. Six studies reveal that repayment-by-purchase increases awareness of what is being repaid, which increases perceptions of progress toward reducing debt, which in turn encourages higher repayment. These findings advance our practical understanding of how consumers can be encouraged to pay more toward credit card debt and offer conceptual insight into how both increased awareness and perceived goal progress enhance consumer motivation to get out of debt.

INTRODUCTION

Think of the last credit card statement you viewed, online or on paper: your eyes likely started to scan the countless purchases, which started to run together into a sea of debt, until your eyes found the bottom of the bill, where you could choose to pay the total (often out of reach financially), enter a different amount (which consumers rarely do), or pay the minimum balance. Not surprisingly, many consumers choose the final option, resulting in ever-increasing debt. Indeed, credit card debt is a serious problem for many consumers: nearly half of all U.S. households report holding unsecured debt from credit cards (Federal Reserve 2014). In 2016, credit card debt rose 6.5%, resulting in a national balance of revolving credit of over 1 trillion dollars (Federal Reserve 2016). While credit card debt balances have steadily increased over the last decade, the percent of household income allocated toward repaying these debts has decreased by 17 percent (Federal Reserve 2014), and nearly 30 percent of consumers have reported failing to make a monthly payment (Federal Reserve 2013). When credit card debt goes unpaid, consumers are subjected to increased interest charges and late fees (Consumer Financial Protection Bureau 2017), as well as a reduced credit score, which may limit their future ability to make major purchases (Hayashi and Stavins 2012). Further, consumers can default on their credit card debt if they fail to make a payment for an extended period—a trend that has been increasing in recent years (Federal Reserve 2017).

Given that many consumers fail to pay off their credit card debt each month, and as a result, experience negative financial consequences, what interventions might help them avoid such damage? Imagine instead of your typical credit card statement, that you were able to allocate payment toward specific purchases on a credit card bill – what we term "repayment-by-purchase." Under this process, you could select specific purchases (e.g., a coffee at Starbucks, a

utility bill) that you wished to repay, and then make payments specifically directed toward "eliminating" these purchases. We suggest that this setup could help to reduce the feeling of an endless sea of purchases, instead making consumers more aware of what they are paying off, thereby increasing their feelings that they can make progress on their debt – leading them to repay more. Our intervention – using consumers' past purchasing behavior to stimulate their present motivation to pay –leverages previous research showing the power of altering available information at the time of repayment (Hershfield and Roese 2015; Navarro-Martinez et al. 2011; Salisbury 2014), and the increases in perception of goal progress induced by repayment (Kettle et al. 2016).

Specifically, we offer a low-cost, practical means of achieving tighter coupling of consumption and repayment, thus leading consumers to become more aware of the purchases they are "paying off" (Prelec and Loewenstein 1998). Our primary result is that repayment-by-purchase results in significantly higher repayment toward debt than typical repayment. Moreover, we document the psychological processes underlying this effect: repayment-by-purchase increases awareness of the past purchases that are now being repaid, which results in greater perceived progress toward reducing the debt – leading consumers to dedicate more financial resources toward that debt.

THEORETICAL DEVELOPMENT

Credit Cards Decouple Purchase from Payment

Consumers regularly identify the costs and benefits associated with transactions and link the two together when making purchase evaluations (Prelec and Loewenstein 1998; Thaler 1985; 1999). The means by which consumers pay for goods influence how such "losses" are accounted for and experienced. For instance, the physical form of cash makes salient parting with money, resulting in tight coupling of the costs and benefits of the transaction, whereas credit cards do not feel as concrete, thereby reducing the salience of parting with money and making it easier to spend (Raghubir and Srivastava 2008; Shah et al. 2016; Thaler 1985). Indeed, a primary feature of credit cards is that they do not require the immediate payment of money, instead introducing temporal distance between the experience of consumption and payment by presenting consumers with a monthly bill (Gourville and Soman 1998; Raghubir and Srivastava 2008). The monthly bill also combines numerous purchases, drawing consumers' attention to the total balance, thus reducing the salience of each individual expense (Srivastava and Raghubir 2002).

While previous research has primarily investigated how decoupling payment from consumption increases the pleasure of consuming (Gourville and Soman 1998; Linville and Fischer 1991) and reduces barriers to spending (Raghubir and Srivastava 2008; Soman 2001), relatively little is known as to how these features influence debt repayment decisions. We suggest decoupling repayment from consumption reduces consumer awareness of the individual purchases that make up their debt, and in turn, reduces awareness of what is being repaid—stunting repayment motivation, and ultimately reducing the amount of money dedicated to debt repayment.

How Might Repayment and Consumption be Most Effectively Recoupled?

Prelec and Loewenstein (1998) hypothesize that tighter coupling between repayment and consumption should be preferred, as tighter coupling could evoke thoughts about the benefits being financed. For example, their argument might suggest that credit card statements should arrive in close temporal proximity to purchases. However, there are a number of reasons why temporal or even informational recoupling may not raise motivation to repay. First, consumers have difficulty accurately recalling their past purchases, typically recalling credit card purchases by making an estimate based on some holistic extrapolation (Srivastava and Raghubir 2002). Second, while credit card bills provide information about purchases from the current payment cycle, the typical procedure of allocating a payment toward the total balance of the bill does not require consumers to evaluate these purchases. In fact, because consumers avoid negative financial information (Karlsson, Loewenstein, and Seppi 2009), they may avoid evaluating individual past expenses on their credit statement altogether, focusing instead only on the overall balance. If consumers cannot afford to pay the balance in full, they may elect to make a partial payment, such as the minimum payment required—often a small amount. Repayment and consumption remain decoupled, which we argue results in low awareness of past consumption, low awareness of what is being repaid, and low perceptions of progress toward reducing their debt balance, reducing motivation to repay. In contrast, we suggest that prompting consumers to allocate payment toward specific purchases on the bill (i.e., offering repayment-by-purchase), can recouple payment and consumption resulting in increased repayment.

Why Does Recoupling Increase Payment Motivation?

We suggest three primary drivers for the positive effect of repayment-by-purchase on debt repayment. First, repayment-by-purchase should raise awareness of purchases more

effectively than does typical repayment: consumers must choose which purchase(s) to repay, which requires active evaluation of each purchase as a repayment target, whereas typical repayment does not require evaluation of purchases because payment is made toward the total balance. Second, repayment-by-purchase should increase perceptions of progress toward eliminating debt more effectively than typical repayment: consumers can eliminate specific purchases from their bill with their payment, providing a tangible indicator of progress made with payment. Third, repayment-by-purchase partitions the debt into smaller "subintervals" that consumers may wish to diversify their payment across. However, we hypothesize that awareness and perceptions of progress will contribute to higher repayment above and beyond the effects of general diversification of payment.

Repayment-by-Purchases Increases Awareness of Purchases

Choosing among alternatives requires consumer attention (Krajbich, Armel and Rangel 2010; Krajbich et al. 2012; Krajbich and Rangel 2011; Shimojo, Simion, Shimojo, and Scheier 2003) and cognitive processing (Shiv and Fedorikhin 1999; Simonson 2005). Visual attention increases awareness of distinct attributes (Carrasco 2006), and consumers have a tendency to prioritize distinctive attributes when making decisions. For example, in one experiment, when participants were presented with two budget categories (e.g., "charity" and "gifts") and their attention was directed toward one of the categories (e.g., "charity"), participants reported that category (e.g., "charity") as more distinct and reported greater willingness to prioritize more funds toward that category (e.g., "charity") when making a budget (Mrkva and Van Boven 2017). Therefore, because repayment-by-purchase requires consumers to choose which item(s) to

repay from the purchases on the bill, consumers should become more aware of each item, making them more distinct, resulting in greater prioritization of debt repayment compared to typical repayment.

Narrow Bracketing and Perceptions of Progress Toward Reducing Debt

By creating stronger awareness of individual purchases of the bill, repayment-by-purchase narrowly brackets the debt into a collection of distinct purchases, rather than one lump sum. As a result, we suggest that when purchases are paid and removed from the bill, consumers should experience increased perceptions of progress toward reducing debt. Research suggests that narrow bracketing (i.e., prompting individuals to focus on distinct aspects of an array of information or behavior rather than the entire group as a whole) facilitates self-control when people are budgeting resources, because the narrow frame in which an outcome is evaluated provides a tangible goal (Read et al. 1999). Indeed, creating subgoals is a form of narrow bracketing that consumers frequently use when approaching a goal that is distant or difficult to accomplish (Bagozzi and Edwards 1998; Bandura and Simon 1977). When consumers complete small, proximal goals, they receive feedback about their performance and are able to attribute a positive outcome to their effort, which generates a sense of achievement (Schunk 1982), resulting in increased motivation toward the overall goal (Bandura 1986; Zhang and Gao 2016). The completion of a discrete subgoal also acts as a marker of progress (Gal and McShane 2012), which also helps a consumer realize the progress they have made toward their overall goal, in turn increasing goal persistence (Cheema and Bagchi 2011; Kivetz et al. 2006).

With regard to debt repayment, previous research suggests that the overall goal of becoming debt free may be overwhelming because of its broad nature and that a more narrow and selective focus may be a preferred strategy when making repayment decisions (e.g., Amar et al. 2011; Gal and McShane 2011). For instance, consumers with multiple debt accounts – like those who receive several credit card bills each month – tend to treat each debt account as an independent subgoal toward the overall goal of becoming debt free (Amar et al. 2011; Brown and Lahey, 2015; Gal and McShane 2011), and typically prioritize repaying smaller debt accounts over larger accounts (Amar et al. 2011; Gal and McShane 2012; Kettle et al. 2016). The discrete event of closing out a debt account increases motivation to continue paying toward other debt accounts (Brown and Lahey 2015; Gal and McShane 2012). While this research has focused on understanding the motivational consequences of debt repayment across multiple debt accounts, our research explores how consumers can be motivated to repay when paying toward a single debt.

A typical credit card statement is composed of multiple purchases; under typical repayment schemes, the consumer must make a payment toward the aggregation of their past purchases by allocating payment toward the total balance. Because statements are composed of multiple purchases, however, a natural subgoal (i.e., a narrow bracket) may be to repay a specific purchase (e.g., a flight). Repayment-by-purchase offers exactly this possibility: a consumer selects the purchase(s) they want to allocate a payment toward, such that the purchase will be removed from the bill—allowing the consumer to "cross the purchase off" their bill. This feedback provides a visual indicator of progress toward reducing debt, and such progress indicators are useful in motivating people to continue working toward a goal (Cheema and Bagchi 2011); moreover, when visual reminders of the output of effort is removed, persistence in

tasks is reduced (Ariely, Kamenica, and Prelec 2008). Therefore, we propose that repayment-by-purchase couples repayment to consumption by increasing awareness of the items on the bill, which, in turn, leads to increased perceptions of progress toward reducing debt – relative to when a payment is allocated across the total bill.

Repayment-by-Purchase and Partition Dependence

Finally, it is likely that at least some of the effect of repayment-by-purchase is due to partition dependence. Partition dependence refers to the tendency for consumers to make different allocations among the same set of options as a function of the way these options are grouped (Fox, Ratner, and Leib 2005). Consumers demonstrate a tendency to diversify their allocations of money and consumption choices when they are presented with multiple options (Benartzi and Thaler 1999; Read and Loewenstein 1995) and allocate more money to superordinate categories when they are broken into subintervals (Fox et al. 2005). While repayment-by-purchase may increase repayment in part due to consumers' desire to diversify their payment across "subintervals" – we suggest that heightened awareness of purchases and perception of progress toward reducing debt that result from repayment-by-purchase drive increased repayment over and above the effects of partition dependence. We compare the effects of coupling and partition dependence in our experiments and find that repayment increases when consumers make payments toward specific purchases, but not when making payments toward generic "subintervals" (e.g., a "charge").

Could Repayment-by-Purchase Backfire?

Why might repaying by the purchase not work, or even backfire? Narrow framing can lead to less optimal behavior by drawing consumer attention to a target that is *too* narrow, stunting effort toward the overarching goal (Camerer, Babcock, Loewenstein and Thaler 1997). Therefore, purchase repayment may make consumers overly focused on eliminating a specific purchase, rather than eliminating the entire debt balance. Given consumers' tendency to prioritize repaying the smallest debt balance in a debt set (Amar et al. 2011), they may anchor toward repaying the smallest purchase of a debt balance. Eliminating a small item may create an illusion of progress without having a substantial impact on the overall debt balance. Second, purchase repayment might add complexity to the repayment decision. By allocating a payment toward specific purchases, consumers not only decide how much to repay, but also which items they wish to repay, and consumers can experience conflict when deciding among attractive options, leading them to defer choice (Dhar 1997; Iyengar and Lepper 2000; Tversky and Shafir 1993). We explore potential boundary conditions in our experiments, tracing the effectiveness of repayment-by-purchase to our overall account of when and why allowing consumers to eliminate specific debts increases overall repayment.

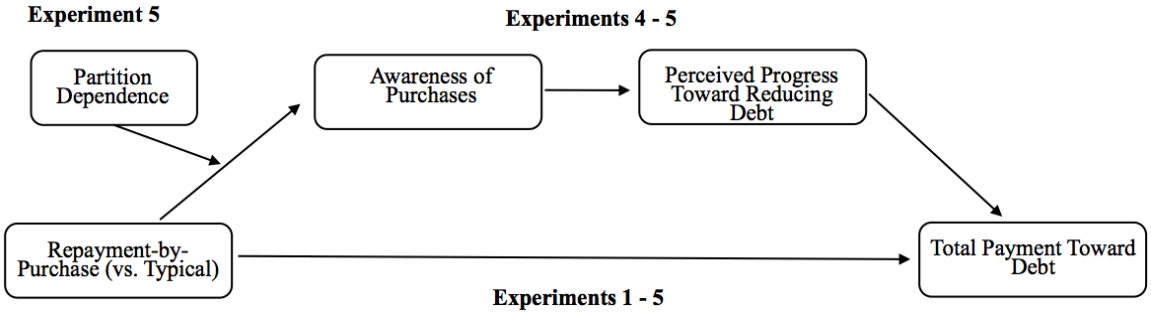
OVERVIEW OF EXPERIMENTS

In our experiments, all participants made a payment toward hypothetical credit card balances but were randomly assigned to allocate their payment either toward the total balance (typical repayment) or toward specific purchases that made up the balance (repayment-by-purchase). Experiment 1 demonstrates that significantly more money is allocated toward debt

repayment under repayment-by-purchase than typical repayment. Experiment 2 demonstrates that consumers prioritize repaying a debt presented under repayment-by-purchase before a debt presented under typical repayment, suggesting that repayment-by-purchase does not increase choice conflict as consumers do not defer choice. Experiment 3 evaluates repayment behavior over time in an incentive-compatible debt repayment task across 25 consecutive repayment decisions. In this experiment, consumers pay off a large debt significantly faster under repayment-by-purchase than under typical repayment. Experiments 4a and 4b explore our proposed mechanism: consumers perceive greater progress toward reducing debt using repayment-by-purchase relative to typical repayment, because making payments toward specific purchases increases awareness of what purchases are being repaid; these effects are robust whether holding total amount repaid constant or not. Finally, experiment 5 tests the contributing role of partition dependence to our effects; compared to mere partitioning of debt into categories, consumers paid significantly more under repayment-by-purchase, demonstrating the unique contribution of repayment-by-purchase over and above partitioning, while further demonstrating the role of awareness in increasing payment.

Taken together, our results suggest that consumers dedicate more financial resources to debt repayment under repayment-by-purchase than typical repayment. Collectively, these experiments advance our understanding of the behavioral consequences of tighter coupling of consumption and repayment, demonstrating the underlying psychology of increased awareness and perceived progress toward reducing debt in driving debt repayment motivation (see Figure 1.1 for our theoretical model and overview of studies.

Figure 1.1
Theoretical Model and Overview of Studies



EXPERIMENT 1: REPAYMENT-BY-PURCHASE VERSUS TYPICAL REPAYMENT

To explore whether repayment-by-purchase would increase the total payment made toward credit card debt, we varied the method in which payments were allocated toward a hypothetical credit card debt in a 2 condition (payment method: repayment-by-purchase or typical repayment) between subjects design.

Methods

Participants and Design. One hundred eighty-one adults (41.4% female; M_{age} = 30.18, *SD* = 8.96) participated in a series of unrelated lab studies at a university in the northeastern United States in exchange for $20. We randomly assigned participants to one of two experimental conditions where we varied repayment method toward a hypothetical debt.

Procedure. Participants were asked to imagine that they used a credit card to pay for a series of expenses from January through April. Participants imagined spending $300 on a vacation to Florida and $300 to pay for a procedure for their dog at the veterinarian in January.

In February, participants imagined spending $150 on clothes from a department store and $150 at the mechanic to repair a flat tire. In March, participants imagined that they spent $125 on a nice dinner at an Italian restaurant and $125 to repair their laptop. Finally, in April, participants imagined spending $100 on a night class at a community college and $100 for the course textbook. Therefore, by May, participants learned that over the past four months they had used their credit card to make a total of 8 purchases, which had accrued an interest charge of $26 for a total debt balance of $1,376.00. Participants were then informed that after paying all of their fixed expenses (e.g., rent and bills) for the month of May, that they had $800 in discretionary money and were asked how they would allocate this money across a few variable expenses: their credit card bill, groceries, and social experiences. Participants were required to allocate all $800 but were not required to make a minimum payment toward any expense.

Payment Toward Credit Card. In the typical repayment condition ($N = 90$), participants allocated a payment toward the total balance of their credit card, while in the repayment-by-purchase condition ($N = 91$), participants allocated a payment toward the specific purchase(s) that made up their bill (see Appendix A for a depiction of the repayment procedures in both conditions).

Results

Payment Toward Credit Card. Consistent with our hypothesis, participants paid significantly more toward the credit card debt in the repayment-by-purchase condition (M = \$559.74, SD = \$147.51), compared to those in the typical repayment condition (M = \$473.50, SD = \$155.02), $t(179) = 3.83$, $p < .001$, $d = .57$.

Items Repaid in the Repayment-by-Purchase Condition. We also evaluated which purchases were most likely to be repaid in the repayment-by-purchase condition. Participants were significantly more likely to make a payment toward relatively smaller purchases (β = -.25, *SE* = .09; t[819] = 2.74, p = .006) and purchases with older purchase dates (β = -.11, *SE* = .05; t[819] = -2.21, p = .03). See Appendix B for full procedure and statistics.

Discussion

Experiment 1 provides initial evidence that consumers will pay significantly more toward debt under repayment-by-purchase, relative to typical repayment. While repayment-by-purchase did encourage participants to prioritize repaying smaller purchases, it did not appear to reduce effort toward eliminating the overall debt balance.

In this experiment all participants were financially constrained— they did not have enough money to pay the debt off in full. While 65.2% of our sample reported that they did not typically pay their credit card debt in full each month, this circumstance is likely representative of most consumers. However, we reran this experiment (N = 214; 37.1% female; M_{age} = 32.14, *SD* = 9.76), endowing participants with $1,500 (an amount that would be sufficient to repay the credit card balance in full). We replicated our findings— participants in the repayment-by-purchase condition paid significantly more (M = $1,136.30, *SD* = $205.93), than those in the typical repayment condition (M = $1,034.29, *SD* = $265.37), t(212) = 3.14, p = .002, d = .43. These results suggest that our effect is not merely an artifact of constrained resources—although the effect of purchase repayment is stronger when consumers do not have enough money to repay the full balance.

EXPERIMENT 2: CHOOSING REPAYMENT-BY-PURCHASE OVER TYPICAL REPAYMENT

Experiment 1 provided initial support that consumers will dedicate more money toward debt repayment under repayment-by-purchase compared to typical repayment. Often consumers have more than one credit card (Bolton, Bloom, and Cohen 2011), we therefore wanted to evaluate how repayment method would influence payment decisions across two debts. Participants were saddled with two debts that were equivalent in total number of purchases and overall debt balance but varied in repayment procedure: one card required repayment to be allocated toward specific purchases (repayment-by-purchase), while the other required payment to be allocated to the total balance (typical repayment). This design allows us to evaluate if consumers would choose repayment-by-purchase repayment over typical repayment. Given research on choice aversion (e.g., Iyengar and Lepper 2000), consumers may prefer to avoid making a choice of what items to repay, and if so, we would expect more money to be allocated toward the card that required payment to be directed toward the total balance.

Methods

Participants and Design. One hundred eighty adults (28.9% female; M_{age} = 31.61, SD = 10.98) were recruited through Amazon's Mechanical Turk and paid a nominal fee for participating. All participants were asked to make a repayment decision across two credit cards that varied in the way payments were allocated: repayment-by-purchase or typical repayment.

We therefore evaluated repayment decisions in a within subjects design, counterbalancing the order in which the two debts were presented. We found no ordering effect and present the results collapsed across this variable.

Procedure. We used the same procedure as experiment 1, where participants imagined making 8 credit card purchases from January through April for a total of $1,376.00. We modified this procedure slightly by informing participants that they used two credit cards to make these purchases: each card had a total balance of $688.00, with each debt consisting of 4 purchases and a small interest charge. Participants were then informed that after paying all of their fixed expenses (e.g., rent, bills, etc.), that they had $800 in discretionary money and were asked how they would allocate this money across a few variable expenses: their credit card bills, groceries, and social experiences. There was no minimum amount required to allocate toward any of the categories—including the two credit card balances—the only requirement was that the overall allocation totaled $800. Importantly, participants were endowed with enough money to completely eliminate one of the credit card debts. While allocating a payment toward the total balance of a credit card would take less time (participants would not have to allocate a payment for each purchase), and would potentially reduce choice conflict (e.g., Iyengar and Lepper 2000), our design allowed us to test the influence of these features on repayment decision by allowing us to compare the amount allocated toward each debt.

Results

Payment Toward Credit Card. Participants paid significantly more toward the credit card that required repayment-by-purchase (M = \$330.73, SD = \$162.87) than the card that required typical repayment (M = \$230.43, SD = \$160.03), $t(179) = -4.54$, $p < .001$, $d = .67$.

Items Repaid in the Repayment-by-Purchase Condition. We also evaluated which purchases were most likely to be repaid in the repayment-by-purchase condition. The bill in this study consisted of only half the purchases from experiment 1. In this study, participants were not significantly more likely to make a payment toward relatively smaller purchases ($\beta = -.01$, $SE = .02$; $t[900] = -.47$, $p = .63$). See Appendix C for full procedure and statistics.

Discussion

Experiment 2 provides additional evidence that consumers pay significantly more toward debt under repayment-by-purchase, relative to allocating a payment toward the total balance (typical repayment). Further, we found no evidence of choice deferral (Dhar 1997; Tversky and Shafir 1992), instead allocating a payment toward specific purchases appeared to be more attractive than paying toward the total balance as evidenced by a greater proportion of money being allocated to this debt.

When evaluating two debts with the same balance, we found that participants chose to pay significantly more toward a debt under repayment-by-purchase than a debt with typical repayment. Would participants choose to pay more toward a debt under repayment-by-purchase even when the overall debt balance was relatively larger than debts with typical repayment? Further, our previous studies evaluated a single debt repayment decision—in this next study we wanted to understand how repayment-by-purchase would influence repayment decisions over

time. Therefore, in our next experiment we evaluated multiple repayment decisions in an incentive compatible debt repayment game and manipulated the payment procedure toward a relatively large debt in a debt set.

EXPERIMENT 3: INCENTIVE COMPATIBLE REPAYMENT DECISIONS

Our previous experiments suggest that a consumer will choose and pay more toward a debt when payment is allocated toward specific purchases (repayment-by-purchase) versus the total balance (typical repayment). However, our previous experiments have evaluated a single, and hypothetical, debt repayment decision. Indebted consumers will typically make numerous payments toward a debt, and therefore, we sought to test the effectiveness of repayment-by-purchase over typical repayment in an incentive-compatible debt repayment task evaluating 25 consecutive repayment decisions. While previous research has found that consumers have a tendency to prioritize repaying relatively smaller debts before relatively larger debts (Amar et al. 2011; Gal and McShane 2012), we wanted to evaluate if consumers would prioritize repaying a large debt among relatively smaller debts if the large debt required repayment-by-purchase while the relatively smaller debts required typical repayment.

Methods

Participants and Design. One hundred sixty adults (51.0% female; M_{age} = 24.62, *SD* = 4.88; 40.6% Caucasian) participated in a series of unrelated lab studies at a university in the northeastern United States in exchange for $20. Participants completed a debt repayment task

adapted from previous debt repayment research (see Amar et al. 2011). We randomly assigned participants to one of two experimental conditions where we varied the payment allocation method of the largest debt in a debt set by allocating payments toward the total balance (typical repayment) or toward specific purchases (repayment-by-purchase) of only the largest debt.

Procedure. Participants were saddled with six debts varying in size (ranging from $3,000 to $60,000) and annual percentage interest rate (ranging from 2.0% to 4.0%; see Appendix D). The task lasted for 25 rounds, and in each round, a participant received a $5,000 cash allotment to pay down to one or more of the open debts. Unknown to participants, in addition to this cash allotment, they would occasionally receive a cash bonus to be used to pay off their open debts ($20,000 in round 6, $15,000 in round 12 and $40,000 in round 19).

A participant in the typical repayment condition ($N = 74$) would allocate their entire cash allotment toward the balance(s) of any of their unpaid debts. In the repayment-by-purchase condition ($N = 86$) we manipulated the payment procedure of the largest debt (the $60,000 debt at 4.0% APR), by allowing participants to allocate their payment toward specific purchases (repayment-by-purchase) of this debt (see Appendix E). Participants in this condition were also able to allocate their payment toward the total balance (typical repayment) of any of the other debts that were unpaid. After the participant confirmed their payment decision, they were presented with the updated balance of each debt and a graph displaying the past and current standing of each debt. Importantly, the task was incentive compatible- participants were told that in addition to their $20 cash payment that they would receive a bonus based on their performance. Specifically, the participant would earn a $2 bonus if their total debt balance at the end of the task was $30,000 or less; $1.50 if their total debt balance was between $30,001 and

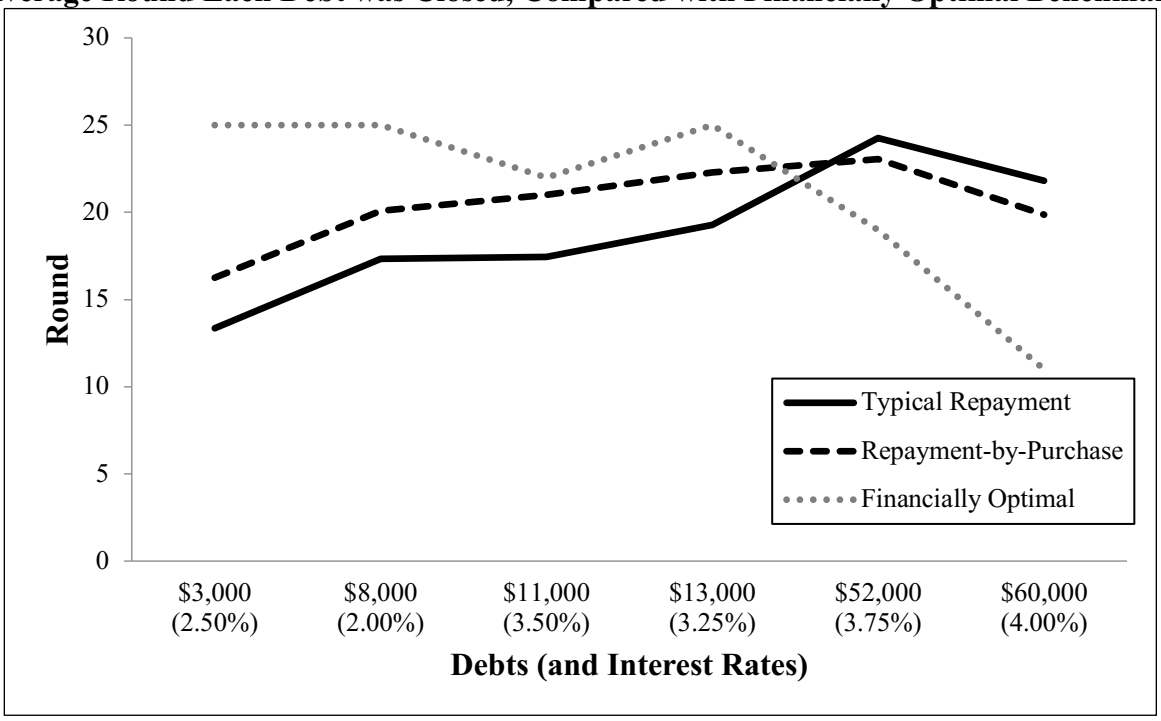
$35,000; $1 if their total debt balance was between $35,001 and $40,000; and $0.50 if their total balance was greater than $40,001.

Our primary dependent measure was the speed with which the $60,000 debt was repaid. Given the financial incentive of the task, participants should prioritize repaying this debt over the other debts because of the higher interest rate. However, Amar and colleagues (2011) found participants prioritized repaying the smallest debts in a previous investigation using this repayment task. We hypothesized that participants would allocate more money toward the $60,000 debt in the repayment-by-purchase condition relative to the typical repayment condition, resulting in a lower debt balance by the end of the task.

Results

Payment Toward the $60,000 Debt. Participants in the repayment-by-purchase condition paid off the $60,000 debt nearly two rounds faster (M = 19.87, SD = 5.31) than those in the typical repayment condition (M = 21.81, SD = 5.00), $t(158) = -2.36$, $p = .019$, $d = .37$ (see Figure 1.2).

Figure 1.2
Average Round Each Debt was Closed, Compared with Financially Optimal Benchmark



We also measured the propensity to have completely repaid the $60,000 debt before the end of the task. Participants in the repayment-by-purchase condition were 32.4 percent more likely to have paid off the $60,000 debt before completing the task, relative to participants in the typical repayment condition (percent paying off: 69.8% in purchase repayment versus 52.7% in balance repayment; ($\chi^2(1) = 4.91$, $p = .027$).

Ending Balance. We also evaluated the total ending balance of the game by repayment condition. Participants in the repayment-by-purchase condition ended the task with a significantly lower overall debt balance (M = -$35,428.25, SD = $4,919.57) than those in the typical repayment condition (M = -$37,677.56, SD = $5,867.37), $t(158) = 2.64$, $p = .009$, $d = .42$.

Items Repaid in the Repayment-by-Purchase Condition. We also evaluated which purchases were most likely to be repaid in the repayment-by-purchase condition. As in experiment 1, participants were significantly more likely to repay relatively smaller purchases (*ß*

= 3.14, *SE* = 1.51; *t*[516] = 2.07, *p* = .04) and purchases with older purchase placement (β = 2.79, *SE* = 1.59; *t*[516] = 1.75, *p* = .08). See Appendix F for full procedure and statistics.

Discussion

Experiment 3 provides additional evidence that repayment-by-purchase results in an increased amount of money allocated toward debt repayment. Not only were more financial resources dedicated toward repaying this debt, we also observed that repayment-by-purchase resulted in quicker repayment relative to balance repayment. We demonstrated this effect in an incentive compatible game measuring 25 consecutive repayment decisions and found additional evidence that purchase repayment does not create an aversive consumer experience in terms of choice conflict (Dhar 1997).

In our next studies, we explore our proposed underlying mechanism as to why purchase repayment results in higher repayment. Specifically, in our next study we evaluate if repayment-by-purchase increases awareness over what is being repaid (Prelec and Loewenstein 1998), and in turn, perceptions of progress toward reducing debt (e.g., Kettle et al. 2016) relative to typical repayment, and evaluate the role of these variables in explaining increased repayment.

EXPERIMENT 4A: EXPLORING THE ROLE OF AWARENESS AND PERCEIVED PROGRESS TOWARD REDUCING DEBT ON EQUIVALENT REPAYMENT

While our previous experiments provide consistent evidence that consumers dedicate more money toward debt repayment under repayment-by-purchase than typical repayment, we

now look to understand the underlying mechanism explaining this increase. We posit that repayment-by-purchase narrowly brackets the repayment decision, bringing greater awareness of what the payment is going toward. In turn, consumers should perceive greater progress toward reducing debt by eliminating an item from their bill. As in our previous studies, we vary whether participants make a payment toward purchases (repayment-by-purchase) or the total balance (typical repayment) of a credit card bill, however in this study we hold constant the amount participants pay toward debt and measure perceptions of awareness and progress toward reducing debt.

Methods

Participants and Design. Two hundred forty-seven adults (44.9% female; M_{age} = 34.13, *SD* = 10.59; 82.0% White) were recruited through Amazon's Mechanical Turk and paid a nominal fee for participating.

Procedure. Participants were presented with a credit card statement consisting of 10 purchases with a total balance of $888.14 (see Appendix G). The statement included minimum payment information, including CARD Act regulations stating the implications of making a minimum payment. All participants were required to make a payment of $250. Participants were randomly assigned to one of two repayment conditions: in the typical repayment condition (N = 127) participants made a payment toward the total balance, while participants in the repayment-by-purchase condition (N = 120) made a payment toward specific purchases that made up the bill.

Participants in the repayment-by-purchase condition were instructed to use their mouse to click on a purchase on the credit statement that they wished to make a payment toward. Once the participant clicked on a purchase, a payment window appeared and the participant would type in the amount they wished to pay toward that item. Both full and partial payments were allowed. In instances when the full balance of the purchase was paid, the item would disappear from the bill. When partial payments were made, the purchase remained on the bill but the balance of that purchase (and the overall total balance) updated to reflect the payment. Participants assigned to the typical repayment conditions were instructed to use their mouse to click on a payment box at the bottom of the credit card bill. This payment was made toward the total balance of the bill and not specific purchases.

Next, participants completed measures assessing how much their repayment procedure made them aware of what they were repaying, and their perceptions of progress toward reducing their debt balance.

Awareness. Participants indicated the extent to which they agreed that their payment made them aware of what they were paying off. Responses were recorded on a 7-point scale (ranging from 1, *not at all*, to 7, *a great deal*).

Perceived Progress Toward Reducing Debt. Participants indicated the extent to which they agreed that their payment (a) reduced their debt balance in a meaningful way, (b) significantly reduced their debt balance, and (c) made their debt balance more manageable (α = .93). Responses were recorded on a 7-point scale (ranging from 1, *not at all,* to 7, *a great deal).*

Manipulation Check. We also administered a manipulation check regarding our repayment procedure. Participants indicated the extent to which they felt they were making a

payment toward individual items or the total balance. Responses were recorded on a 7-point scale (ranging from 1, *individual items*, to 7, *the total balance*).

Results

Manipulation Check. Participants in the repayment-by-purchase condition were much more likely to report making a payment toward individual items ($M = 3.23$, $SD = 2.04$) than participants in the typical repayment condition ($M = 5.77$, $SD = 1.42$), $t(245) = 11.38$, $p < .001$, $d = 1.45$.

Awareness. We observed a significant difference in awareness by repayment condition. Participants expressed greater awareness in the repayment-by-purchase condition ($M = 6.08$, $SD = 1.01$) compared to those in the typical repayment condition ($M = 5.11$, $SD = 1.67$), $t(243) = 5.49$, $p < .001$, $d = .70$.

Perceived Progress Toward Reducing Debt. We also observed a significant difference in perceived progress toward reducing debt by repayment condition. Participants perceived greater progress with their payment in the repayment-by-purchase condition ($M = 5.14$, $SD = 1.48$) than the typical repayment condition ($M = 4.45$, $SD = 1.57$), $t(245) = 3.45$, $p < .001$, $d = .44$.

Mediation. We examined whether the higher perceived progress toward reducing debt observed in the repayment-by-purchase condition was explained by the differences we observed in awareness. To test for mediation, we used the PROCESS Macro (Hayes and Preacher 2014), using model 4. Purchase-by-repayment increased perceptions of impact because of heightened awareness of what is being paid (95% CI, .35 to .79).

Items Repaid in the Repayment-by-Purchase Condition. We also evaluated which purchases were most likely to be repaid in the repayment-by-purchase condition. We found no effect for purchase size (β = -.02, *SE* = .02; *t*[1198] = -1.44, *p* = .15) and purchase date (β = -.01, *SE* = .01; *t*[1198] = -.74, *p* = .46), perhaps because of the lack of variability of repayment amount. However, because participants were allowed to make multiple decisions in this repayment task, we estimated the same model predicting repayment order. Participants paid relatively smaller purchases before relatively larger purchases (β = .58, *SE* = .10; *t*[731] = 5.89, *p* < .001), and purchases with relatively older purchase dates before items with relatively newer purchase dates (β = .55, *SE* = .08; *t*[731] = 6.73, *p* < .001). See Appendix H for full procedure and statistics.

Discussion

Experiment 4a provides initial support for our proposed mechanism of awareness and perceived progress toward reducing debt. When holding the total payment constant, greater perception of progress toward reducing debt was perceived in the repayment-by-purchase condition because of increased awareness of what the payment was funding. In our next experiment we explore how awareness and perceived progress influence payment when the amount paid is allowed to vary.

EXPERIMENT 4B: EXPLORING THE ROLE OF AWARENESS AND PERCEIVED PROGRESS TOWARD REDUCING DEBT ON INCREASED REPAYMENT

While experiment 4a provided initial evidence for the role of awareness and perceived progress toward reducing debt when holding the payment amount constant, in the current experiment we explore how awareness and perceived progress influence repayment when the amount can vary.

Methods

Participants and Design. Four hundred eighty-three adults (46.4% female; M_{age} = 37.62, *SD* = 12.03; 85.1% White) were recruited through Amazon's Mechanical Turk and paid a nominal fee for participating.

Procedure. We used the same procedure as experiment 4a, where participants were asked to evaluate a credit card statement consisting of 10 purchases with a total debt balance of $888.44. Unlike experiment 4a, participants were not required to make a $250 payment; instead, participants were required to make a minimum payment of $37 but could make any payment up to $500. Participants were randomly assigned to one of two repayment conditions: typical repayment (N = 241) or repayment-by-purchase (N = 242).

Next, participants completed the same measures from experiment 4a assessing how much their repayment method made them aware of what they were repaying, the perceived progress they felt their payment made toward reducing their debt and a manipulation check.

Results

Manipulation Check. Participants in the repayment-by-purchase condition were more likely to report making a payment toward individual items ($M = 3.74$, $SD = 2.14$) than participants in the typical repayment condition ($M = 5.99$, $SD = 1.34$), $t(481) = 13.84$, $p < .001$, $d = 1.26$.

Payment Toward Credit Card. Participants paid significantly more toward the credit card in the repayment-by-purchase condition ($M = \$264.93$, $SD = \$150.66$) compared to those in the typical repayment condition ($M = \$229.99$, $SD = \$122.81$), $t(481) = 2.79$, $p = .005$, $d = .25$.

Awareness. We also observed a significant difference in awareness by payment condition. Participants expressed greater awareness in the repayment-by-purchase condition ($M = 5.99$, $SD = 1.15$) than in the typical repayment condition ($M = 5.25$, $SD = 1.55$), $t(480) = 5.99$, $p < .001$, $d = .54$.

Perceived Progress Toward Reducing Debt. We also observed a significant difference in perceived progress toward reducing debt by repayment condition. Participants perceived greater progress with their payment in the repayment-by-purchase condition ($M = 4.93$, $SD = 1.49$) than in the typical repayment condition ($M = 4.45$, $SD = 1.29$), $t(481) = 3.83$, $p < .001$, $d = .35$. Given that larger payments toward a credit card could result in increased perceptions of progress made with the payment, we tested if the significant difference in perceived progress held when controlling for the total amount paid toward the credit card. In a regression predicting perceived progress from two independent variables: (a) a condition dummy variable (1 = purchase repayment, 0 = balance repayment) and (b) total paid toward credit card, we found the model to be significant, $F(2,480) = 53.99$, $p < .001$ ($R^2 = .18$). While total payment was a significant predictor of perceived impact ($\beta = .39$, $p < .001$), purchase repayment remained a significant

predictor (β = .12, p = .004), suggesting that repayment-by-purchase resulted in greater perceptions of progress toward reducing debt even when controlling for the amount paid.

Mediation. We examined whether higher repayment observed in the purchase repayment condition was explained by the differences we observed in awareness and perceived progress. To test for mediation, we used the PROCESS Macro (Hayes and Preacher 2014), and we tested our mediators sequentially using model 6. Making a payment toward specific purchases (repayment-by-purchase) increases awareness of what is being paid, which in turn leads to greater perceptions of progress toward reducing debt, resulting in higher repayment (95% CI, 7.87 to 19.04).

Items Repaid in the Repayment-by-Purchase Condition. We also evaluated which purchases were most likely to be repaid in the repayment-by-purchase condition. Participants were significantly more likely to make a payment toward relatively smaller purchases (β = -.05, SE = .01; t[2392] = -4.31, p < .001) and toward purchases with a relatively older purchase date (β = -.06, SE = .01; t[2392] = -5.45, p < .001). As in experiment 4a, we estimated the same model predicting repayment order. Participants paid relatively smaller purchases before relatively larger purchases (β = .73, SE = .08; t[1104] = 8.81, p < .001), and purchases with relatively older purchase dates before items with relatively newer purchase dates (β = .59, SE = .07; t[1104] = 8.42, p < .001). See Appendix I for full procedure and statistics.

Discussion

Experiment 4b provides additional support for the underlying mechanism of our effect: repayment-by-purchase increases awareness of what the payment is financing, in turn increasing

impressions of progress made toward reducing debt, resulting in a higher overall amount paid toward the credit card debt. We also find evidence that participants allocate their payments toward smaller expenses before larger ones and start toward the top of the bill and work their way down.

While we have found evidence suggesting higher repayments are the result of increased awareness and perceptions of progress, another explanation is that repayment-by-purchase partitions the overall debt balance, providing the consumer with a choice set in which they can allocate their payment (see Fox and Clemen 2005; Fox, Ratner, and Leib 2005). In our next study we evaluate the importance of partitioning to that of awareness by manipulating the partition to which payments are made.

EXPERIMENT 5: PARTITION DEPENDENCE AND THE ROLE OF AWARENESS

In this study we evaluate the role of awareness and payment diversification from partition dependence in predicting greater repayment. As in our previous studies, we compare repayment-by-purchase to typical repayment, and in this study, we introduce a second independent variable of purchase description. In the purchase description conditions participants evaluate a credit card statement as presented in our previous studies where each purchase includes the vendor name and the charge (e.g., "Macy's $120.00"). In the purchase description absent condition, participants evaluate a credit card statement where the vendor name is missing (e.g., "$120.00 charge"). We hypothesize that paying $120 toward a Macy's purchase will bring greater awareness of what the $120 is funding relative to making an equivalent payment to a $120 charge, and this awareness will lead to greater perception of reducing debt, and in turn, a higher

amount of money allocated to debt repayment. If partition dependence is responsible for our effect we expect payments across the partition conditions to be constant, whereas if awareness is influencing payments we expect payments to be highest in the purchase partition.

Methods

Participants and Design. Six hundred two adults (48.9% female; M_{age} = 36.24, *SD* = 11.22; 77.7% Caucasian) were recruited through Amazon's Mechanical Turk and paid a nominal fee for participating. We randomly assigned participants to one of four experimental conditions where we varied payment allocation method (repayment-by-purchase versus typical repayment) and purchase description (vendor name present versus not present).

Procedure. We used the same credit card statement as experiment 4a and 4b, which included 10 purchases with a total debt balance of $888.44. Participants randomly assigned to the vendor name not present conditions evaluated the statement with a generic "charge" in place of each vendor name (see Appendix J). Participants were required to make a minimum payment of $37 but could make any payment up to $500.

Next, participants completed measures assessing how much their repayment method made them aware of what they were repaying, their perceived progress toward becoming debt free, and a manipulation check.

Awareness. In this experiment we used a different measure of awareness: we presented participants with 15 different purchases (e.g., "Macys, $120") and asked if they thought each purchase was on their bill by responding *yes* (coded as 1) or *no* (coded as 0). We summed the number of correct responses as a proxy for awareness.

Perceived Progress Toward Reducing Debt. Participants indicated the extent to which they agreed that their payment (a) reduced their debt balance in a meaningful way, (b) significantly reduced their debt balance, and (c) made their debt balance more manageable (α = .93). Responses were recorded on a 7-point scale (ranging from 1, *not at all,* to 7, *a great deal).*

Manipulation Check. We also administered a manipulation check regarding our repayment procedure. Participants indicated the extent to which they felt they were making a payment toward individual items or the total balance. Responses were recorded on a 7-point scale (ranging from 1, *individual items*, to 7, *the total balance*).

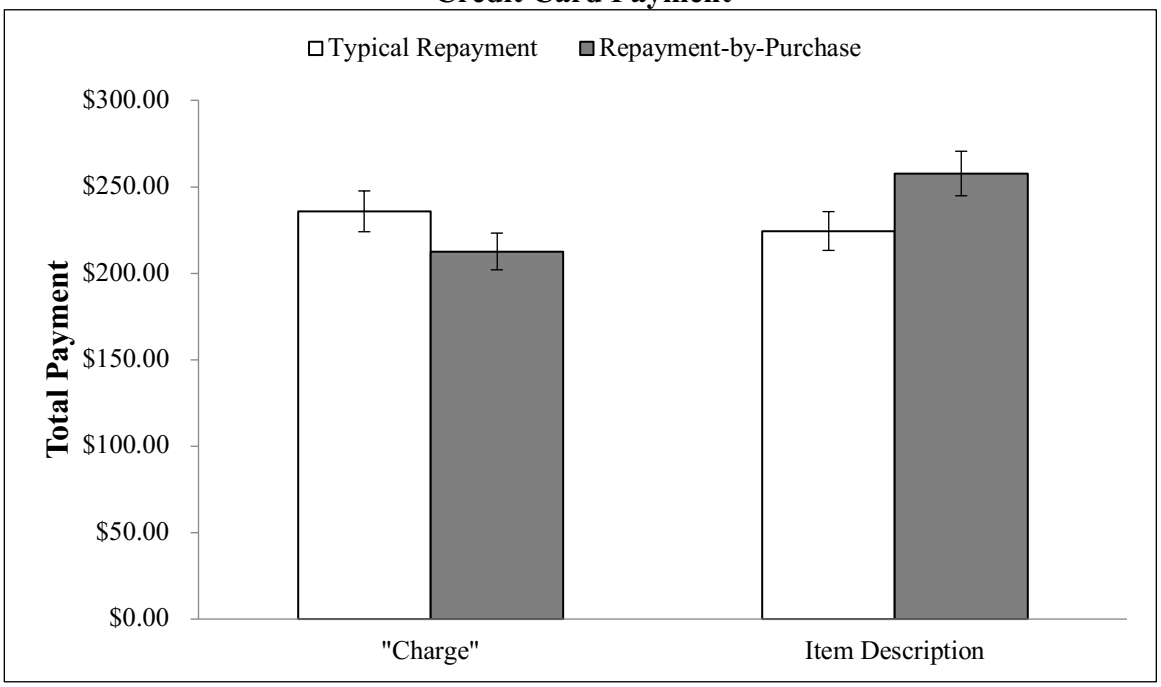
Results

Manipulation Check. Participants in the repayment-by-purchase conditions were more likely to report making a payment toward individual items (M = 3.80, SD = 2.12) than participants in the typical repayment condition (M = 5.96, SD = 1.44), $t(598) = 14.63$, $p < .001$, d = 1.19.

Payment Toward Credit Card. There was a non-significant main effect of payment procedure on total payment, $F(1,598) = .19$, $p = .66$. There was also a non-significant main effect for purchase description, $F(1,598) = 2.12$, $p = .15$. However, there was a significant interaction, $F(1,598) = 5.94$, $p = .02$ (see Figure 1.3). Follow up tests revealed that when participants were presented with item descriptions that included the vendor name, they paid significantly more toward debt under repayment-by-purchase (M = \$257.69, SD = \$148.10) than typical repayment (M = \$224.43, SD = \$125.73), $t(296) = 2.09$, $p = .04$, $d = .24$. However, when the vendor name was absent and replaced with a generic "charge," participants paid the same under repayment-by-

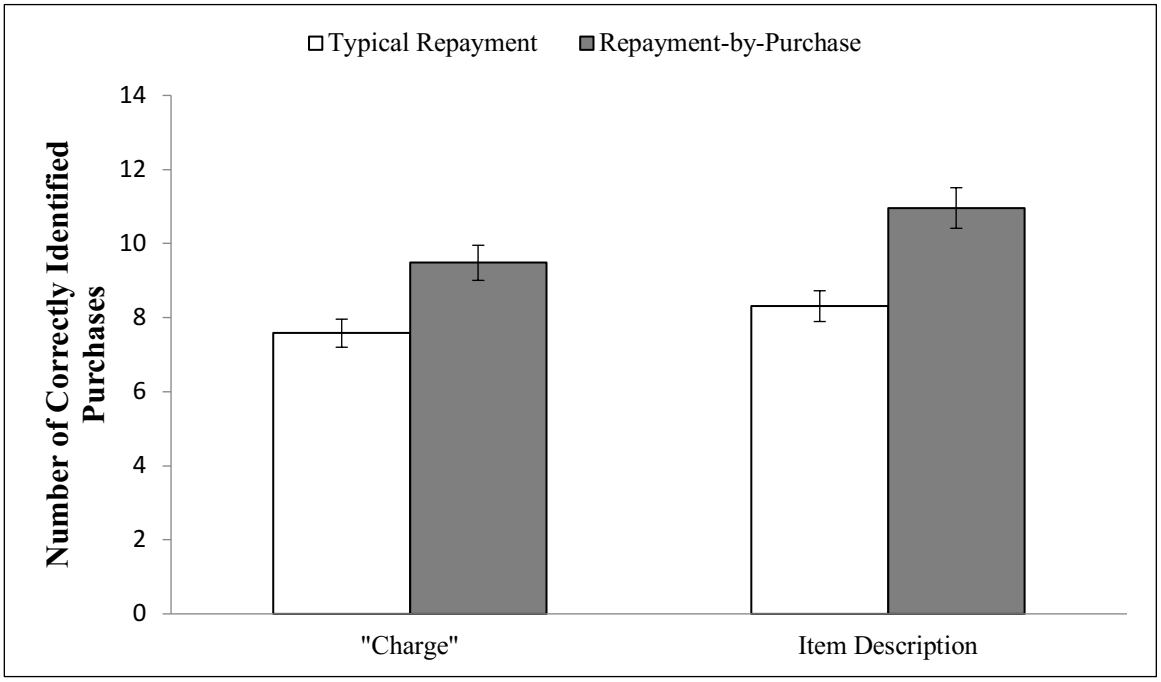
purchase (M = \$212.61, SD = \$148.75), as typical repayment (M = \$235.80, SD = \$144.38), $t(302) = 1.38$, $p = .17$, $d = .16$.

Figure 1.3
Credit Card Payment



Awareness. Participants correctly recalled significantly more items under repayment-by-purchase (M = 10.20, SD = 2.75) than typical repayment (M = 7.95, SD = 2.83), $F(1,598) = 103.96$, $p < .001$. There was also a significant main effect for purchase description, $F(1,598) = 24.67$, $p < .001$, in that participants correctly recalled significantly more items when the purchase description was included (M = 9.63, SD = 3.02), than when the description was labeled a "charge" (M = 8.55, SD = 2.90). In addition, there was a marginally significant interaction, $F(1,598) = 2.86$, $p = .09$ (see Figure 1.4).

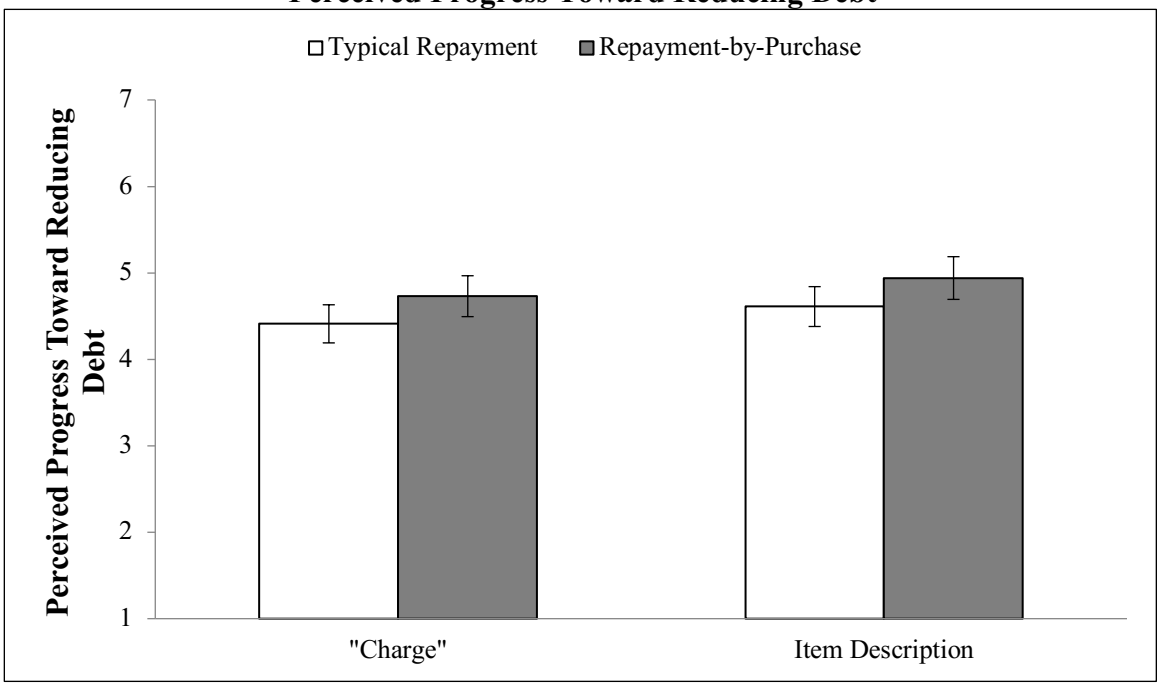
Figure 1.4
Awareness



Perceived Progress Toward Reducing Debt. Participants perceived greater progress toward reducing debt under repayment-by-purchase (M = 4.83, SD = 1.51) than under typical repayment (M = 4.51, SD = 1.61), $F(1,598) = 6.54$, $p = .01$. There was a marginally significant effect for purchase description, $F(1,598) = 2.69$, $p = .10$, but a non-significant interaction between repayment condition and purchase description, $F(1,598) = .00$, $p = .96$ (see Figure 1.5). Given that larger payments toward a credit card could result in increased perceptions of progress made with the payment, we tested if the significant difference in perceived progress held when controlling for the total amount paid toward the credit card. In a regression predicting perceived progress from two independent variables: (a) a condition dummy variable (1 = purchase repayment, 0 = balance repayment) and (b) total paid toward credit card, we found the model to be significant, $F(2,599) = 84.41$, $p < .001$ ($R^2 = .22$). While total payment was a significant predictor of perceived progress ($\beta = .46$, $p < .001$), repayment-by-purchase remained a

significant predictor (β = .18, p = .008), suggesting that repayment-by-purchase resulted in greater perceptions of progress even when controlling for the amount paid.

Figure 1.5
Perceived Progress Toward Reducing Debt



Mediation. We examined whether higher repayment observed in the repayment-by-purchase condition was explained by the differences we observed in awareness and perceived progress. To test for mediation, we used the PROCESS Macro (Hayes and Preacher 2014), and we tested our mediators sequentially using model 6. When the purchase description is present, making a payment toward specific purchases (repayment-by-purchase) increases awareness of what is being paid, which in turn leads to greater perceptions of progress, resulting in higher repayments (95% CI, .19 to 13.37). However, when the item description is not present (i.e., a "charge"), awareness and perceived progress do not mediate (95% CI, -4.07 to 8.50).

Items Repaid in the Repayment-by-Purchase Condition. We also evaluated which purchases were most likely to be repaid in the repayment-by-purchase conditions. Participants were significantly more likely to make a payment toward relatively smaller purchases (β = -.04, SE = .01; t[3128] = -3.70, p < .001) and toward purchases with a relatively older purchase date (β = -.04, SE = .01; t[3128] = -4.76, p < .001). As in experiment 4a and 4b, we estimated the same model predicting repayment order. Participants paid relatively smaller purchases before relatively larger purchases (β = .67, SE = .07; t[1343] = 9.51, p < .001), and purchases with relatively older purchase dates before items with relatively newer purchase dates (β = .67, SE = .06; t[1343] = 11.44, p < .001). See Appendix K for full procedure and statistics.

Discussion

Experiment 5 provides further evidence that repayment-by-purchase increases the amount of money repaid toward debt repayment. Our findings also suggest that this effect is not merely the result of partitioning debt into smaller categories. Specific purchase partitions made consumers more aware of what the payment was financing, resulting in higher perceptions of progress and in turn, higher repayment relative to other less vivid partitions. While other less vivid partitions increased awareness of what was being repaid, this awareness did not increase impressions of progress toward reducing debt, demonstrating the important role of increased awareness in our process.

GENERAL DISCUSSION

Across six experiments we demonstrate that consumers make significantly higher payments toward their debt when given the opportunity to make a payment toward the specific purchases (repayment-by-purchase) that make up their bill relative to making a payment toward the total balance (typical repayment). We demonstrate that consumers make larger payments toward their bill because making a payment under repayment-by-purchase increases awareness of what is being repaid, and this awareness leads to greater perceptions of progress toward reducing debt. Consumers prioritize repaying older and less expensive items on the bill.

Theoretical Implications

This research contributes to the literature on mental accounting by investigating how tighter coupling of consumption and repayment can influence repayment decisions. While previous research has primarily investigated how decoupling payment from consumption increases the pleasure of consuming (Gourville and Soman 1998) and increases spending (e.g., Raghubir and Srivastava 2008; Soman 2001), we demonstrate that tighter coupling may increase debt repayment. We find that coupling the repayment decision with past consumption results in greater awareness of what is being repaid. Given that consumers typically have difficulty recalling past credit card expenses (e.g., Soman 2001; Srivastava and Raghubir 2002), this awareness is an important component increasing consumer motivation, as awareness of the benefits derived from the payment enhances the perception that the payment made meaningful progress toward reducing the debt. Consumers not only paid more toward a debt under repayment-by-purchase, they also prioritized paying a debt with this payment feature over

smaller debts, demonstrating the importance of awareness in generating payment motivation from the consumer.

This work also contributes to our current understanding of narrow bracketing and partition dependence, as we find repayment behavior to be most affected by a meaningful narrow bracket. When a debt was sub-bracketed with individual purchases, the connection between the payment and consumption was strongest, resulting in higher repayment. When the narrow bracket made purchases less salient (i.e., "as a charge") payment did not increase. Narrow bracketing has been found to facilitate self-control when people are budgeting resources (Read et al. 1999), but such framing has resulted in reduced and misguided consumer motivation (e.g., Camerer et al. 1997; Amir and Ariely 2008; Fishbach and Dhar 2005), our findings suggests that multiple narrow bracketed decisions may help facilitate motivation and persistence toward difficult and aversive tasks when the brackets communicate information that increases awareness of what the bracket represents.

These findings also contribute to our understanding of debt repayment as a goal pursuit. While previous research has suggested debt repayment progress is inferred through the discrete closing of a debt account (Brown and Lahey 2015; Gal and McShane 2012) and the proximity to account closure (Amar et al. 2011; Kettle et al. 2016), our results make an important contribution by demonstrating that consumer motivation can be increased by repayment-by-purchase for a single debt account. It may not be necessary to have consumers pay off an entire debt balance to increase persistence, instead bringing awareness to what the payment is funding seems to be an important predictor of impressions of progress and repayment persistence. While we demonstrated this effect by allowing consumers to make payments toward specific purchases, perhaps one of the reasons consumers prioritized repayment of smaller debt accounts over

relatively larger accounts in previous research (e.g., Amar et al. 2011; Gal and McShane 2012; Kettle et al. 2016) is because the proportional change in the debt balance made by the payment provided the consumer with some tangible representation of what the payment funded. Rather, we propose that consumers infer progress based on how much they can understand what they have paid off, rather than the proportional change the payment made.

Further, previous work suggests that acquiring tangible rewards piece by piece motivates people to continue earning rewards relative to when they are earned in one lump sum (Zhang and Gao 2016). In debt repayment there is no tangible reward being earned, however we do find evidence that a repayment-by-purchase strategy may increase persistence and motivation. With typical repayment, consumers generally do not review their credit statements and are not able to accurately recall their past spending (Soman 2001), resulting in minimal engagement and attention dedicated to debt repayment. Indeed, our mechanism is in part simple awareness—for debts, people do not want to look at or acknowledge them, so we are using a repayment-by-purchase strategy to simply get consumers to pay attention to their debt. In contrast, the pursuit of tangible rewards does not elicit an avoidance mindset, and Zhang and Gao (2016) find no role for awareness. Therefore, we are adding another critical contribution of repayment-by-purchase effect- in a negative, avoidance-based domain, awareness plays an important role in goal motivation.

Repayment-by-purchase not only encourages the consumer to evaluate each purchase one at a time, but to also make a repayment choice in isolation, and often times to make numerous decisions that make up an overall repayment decision. Therefore, our work also contributes to the literature on consumer choice. Previous research finds that people experience conflict when deciding among many attractive options (e.g., Iyengar and Lepper 2000), and when experiencing

conflict people are more likely to defer choice (Dhar 1997). While most work has evaluated choice in the context of purchase selection, we evaluate choice under a novel circumstance where choice is typically not available: in debt repayment. In our experiments, we find no evidence of choice deferral, as demonstrated by higher repayments under repayment-by-purchase relative to those made toward the typical repayment. By evaluating repayment choice, we find some evidence of how the choice set is evaluated: consumers tend to evaluate credit statements along an alignable difference, most typically by the purchase size and purchase date. Evaluating choice sets along an alignable difference is a less cognitively demanding evaluation strategy (Gourville and Soman 2005), and the ease in evaluation may contribute to the attractiveness and success of this feature. We found mixed evidence that consumers make repayment decisions along non-alignable differences. In choice sets where there were fewer discretionary purchases we found participants to prioritize repaying non-discretionary items, however in choice sets where there were many discretionary purchases, we found participants to prioritize repaying these goods. It is unclear if consumers are more strongly influenced by purchase specific attributes, or the attributes of the choice set—in that consumers may seek to repay the dominant purchase type in a choice set.

Policy Implications

Our experiments suggest that consumers will make a larger payment toward their debt under repayment-by-purchase than typical repayment. This intervention offers an inexpensive and scalable policy option to help consumers get out of debt. In 2009, the Credit Card Accountability, Responsibility, and Disclosure (CARD) Act was enacted by the US federal

government and began requiring credit card companies to present additional information on monthly credit card statements regarding the financial consequences of making a minimum payment. Specifically, the policy required that creditors notify consumers of the total time they would be indebted and the total amount of money they would spend on interest if making the minimum payment and required lenders to report the amount a consumer would need to pay to be debt free in 3 years. Recent research has suggested that this minimum payment warning resulted in the unintended consequence of *lowering* repayments (Hershfield and Roese 2015), as consumers anchored their payments to the three-year suggested amount as they do to minimum payment information (Navarro-Martinez et al. 2011; Stewart 2009). Like the CARD Act, allowing consumers to allocate their payment toward specific purchases could be a policy intervention that would require a small change to a credit card statement, which may result in higher repayment. This intervention should undergo field-testing to better understand if the unintended consequence of lowering payments would be observed.

Another important consideration is that of credit companies, as they might be interested in adopting this payment feature voluntarily. While creditors make money through interest charges, they may not see the financial benefits of offering this repayment feature to their customers. However, creditors also make money by serving more customers, and this feature might generate a new customer base, as a consumer may be willing to switch credit companies for this repayment feature. Indeed, in experiment 1 nearly 30 percent of our sample reported that they would be willing to leave their current credit company and switch to a creditor that offered repayment-by-purchase. In fact, JP Morgan Chase offers their credit cardholders an online feature to help manage their credit card debt that is very similar to allocating payments toward specific purchases. Their feature is available through online banking and allows a consumer to

select purchase specific categories they would like to pay in full each month and also allows consumers to allocate a specific payment amount to larger items each month until the item is paid off (JP Morgan Chase 2017). Another possible solution would be to offer this repayment feature to a segmented group of consumers. For instance, a creditor may be able to generate some revenue from a delinquent consumer rather than sending their account to a collections company.

Our intervention would likely be administered through online banking because of the interactive nature of the purchase allocation feature. Recent statistics suggest that 48 percent of credit card users make a payment online (Federal Reserve 2013), and 31 percent of credit card users only look at electronic statements (Hershfield and Roese 2015), suggesting that a number of consumers have the technical capabilities to receive such an intervention.

Limitations and Future Research

While our research provides consistent evidence that repayment-by-purchase increases the amount paid toward credit card debt relative to typical repayment, all of our repayment decisions were hypothetical and therefore might have inflated our effect. It is imperative to test our intervention in the field with actual credit card repayment decisions. The hypothetical nature of our studies may have influenced our results in regard to choice. For instance, consumers may have prioritized paying purchases based on their relative size and order on the bill because consumers did not have attachments toward the items on the bill. Further, our choice sets were mostly limited to 10 items or fewer, increasing the choice set could increase the complexity of

the decision and the amount of effort needed to make a payment in the purchase allocation decision.

Another benefit to running a field experiment would allow for the investigation of how the repayment procedure might influence future spending on the card. Knowing that a consumer could completely eliminate a specific item on their credit card bill could encourage them to make additional purchases. If consumers end up spending more on their credit card than they normally would, their subsequent repayment decisions might not be as beneficial as observed in our controlled experiments.

Concluding Remarks

Our research suggests that consumers will allocate a higher payment toward their credit card balance under repayment-by-purchase than typical repayment. Repayment-by-purchase results in higher payment because the consumer allocates their money toward purchases, increasing awareness of what is being repaid, and in turn, increasing the perception progress toward reducing debt, in turn increasing repayment motivation. As consumers continue to struggle with accumulating credit card debt, we offer an inexpensive and effective solution that should help the consumers who struggle most with debt repayment.

Voting for Charity and Consumer-Firm Relationships

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Abstract

Many efforts by for-profit firms to engage their customers in non-profit causes have proven unsuccessful, resulting in low customer participation and unclear financial benefits to the firm. We demonstrate a novel method to improve the effectiveness of these models: allowing customers to vote for the cause to which the firm gives the most financial support. Two field experiments in several outlets of a large membership-only warehouse club show that the benefits of *voting for charity* extend to both existing customers and new customers. Existing customers increase their average basket sizes, while new customers sign up for regular paid memberships instead of unpaid trial memberships. Giving customers the opportunity to vote for charity increased average basket sizes from between 4.2 and 5.8 percent, and increased conversion of new members from trial to paid memberships by 25 percent (compared to merely informing customers about a firm's charitable actions). Three laboratory experiments suggest that inviting customers to *vote for charity* improves the consumer-firm relationship and contributes to the increase in purchasing.

INTRODUCTION

The corporate social responsibility literature distinguishes cause-related marketing (CRM) campaigns from other types of charitable giving by firms (Varadarajan and Menon 1988). CRM campaigns create an explicit link between a customer's purchasing and the amount donated to charity, whereas other forms of charitable giving by firms do not explicitly depend upon customer purchases.

For both types of charitable giving, a central question is whether a firm's charitable contributions increase (or decrease) customer demand. The evidence is somewhat mixed. However, two recent CRM investigations identify an important mechanism that appears to consistently link charitable giving with increased demand. Both invite customers to participate in the firm's charitable giving by allowing them to make decisions that influence how much a firm gives and which charity receives the gift. Gneezy et al. (2010) give customers choice over the price that they pay, and report that customers choose to pay more when a portion of the payment is given to charity. Robinson et al. (2012) allow customers to choose which charity will receive the charitable gift. This invitation significantly increases participants' purchase intentions.

Gneezy et al. (2010) and Robinson et al. (2012) both study CRM settings: in their investigations the size of the firm's charitable gift depends upon whether consumers purchase, and how much they pay. In this paper, we investigate whether the benefits of *voting for charity* extend beyond CRM campaigns. We study whether inviting consumers to choose which charity will receive a firm's charitable donation increases demand, even when consumers know that the size of the gift is fixed and will be made irrespective of whether they purchase.

Generalizing these earlier results beyond CRM settings is important for at least two reasons. First, while examples of CRM campaigns are plentiful, they are not used by all firms. Many firms instead donate money directly to charity, absent any requirement that customers purchase. For example, McDonalds has for decades funded Ronald McDonald Houses for families with sick children, and almost all of these contributions have been made without a direct link between customers' purchases and the firm's giving.[1] Similarly, Walmart and the Walmart Foundation donated some $1.4 billion in cash and in kind in 2016, also without a direct link to customer purchases.[2] If we are able to demonstrate that customers increase purchasing when firms give to charity even without requiring a CRM program, this greatly broadens the potential application of charitable initiatives for firms.

The second reason this extension is important is that it is not obvious the effect will generalize in the absence of a CRM campaign. In a CRM setting a consumer can justify their decision to purchase or choice to pay a higher price as (at least in part) a contribution to charity, because there is a direct link between the purchase and price and the amount that the charity receives. In the absence of a CRM campaign this link is severed – this link is the defining characteristic of a CRM campaign. If the incremental revenue received from consumers is retained by the firm, it is less apparent that consumers can interpret their decision to purchase as a contribution to charity. As a result, it would be more surprising that allowing customers to choose which charity receives a firm's donation would increase demand outside a CRM setting.

[1] "About Us: Keeping Families Close Through a Network of Local Chapters." http://www.rmhc.org/about-us (accessed August 23, 2017)
[2] "Giving People Access to a Better Life. One Community at a Time." http://giving.walmart.com/our-focus (accessed August 23, 2017)

This argument also has an additional implication. The mechanism that explains why voting for charity increases demand may be different in a CRM setting than in the more typical non-CRM setting. In particular, if customers do not interpret their purchases as a contribution to charity, then there must be another mechanism explaining why demand increases in a non-CRM setting. We explore a different mechanism. By voting on the allocation of thousands of dollars of charitable gifts, customers are participating in a meaningful firm decision. This participation may strengthen a customer's relationship with the firm, and it is this strengthening of the relationship that may increase purchasing. There is support for this argument in the literature. Previous research has documented how firm actions can strengthen a customer's relationship with a firm and show that this can contribute to an increase in demand (see for example Blanchard, Carlson and Hyodo 2016; Gneezy et al. 2010; and Goldstein et al. 2011).

We first report the findings from two field experiments. Both experiments were conducted in retail stores operated by a large membership-only warehouse club. Customers entering the store received a piece of paper describing three local charities and stating the total amount that the retailer would be donating to these charities that month. In one condition, customers received only this information; in a second condition, they were asked to vote on which charity would receive the largest donation. We confirmed through ancillary tests that the stimuli and experimental setting made it clear that the donations did not depend upon customers' purchasing decisions. This distinction is important; it establishes that participants did not perceive that the donations were part of a CRM campaign.

In the first experiment we measure how much the customers in each condition subsequently spent on that visit to the retailer. Our findings reveal that allowing customers to

choose how to allocate a fixed total donation across three local charities significantly increased in-store purchasing.

In the second experiment we focus on new members signing up for memberships and measured the type of membership that the customers chose. Inviting customers to vote on which charity would receive the largest donation caused more new members to sign up for paid 1-year regular memberships (versus unpaid 2-month trial memberships). This confirms that voting for charity not only influences shopping behavior during a single store visit, but also affects long-run customer outcomes. For membership-only warehouse clubs, membership fees constitute an important source of profits, and so transitioning new members from unpaid trials to paid regular memberships is an important goal.

Results from both field experiments confirm that inviting customers to vote on which charity will receive the largest donation can yield a positive return on investment to retailers. We show that this holds true even after accounting for both the amount of the donation and the labor cost of implementing the campaign.

In three online experiments, we investigate two mechanisms that may help to explain why *voting for charity* increases customer demand outside a CRM setting. Recall that we earlier recognized that customers may perceive that their purchase is in part a contribution to charity. However, we also recognized that this explanation is less plausible when there is no direct link between the customer's purchase and the firm's contribution to charity. We also proposed a second explanation; as a result of their participation in the firm's charitable decisions, the relationship between customers and the firm may be strengthened. We evaluate these two explanations using the same paradigm as in experiment 1 but in online experiments using a simulated shopping environment. In contrast to research on CRM campaigns, which suggests a

key role for contributing to charity (Robinson et al. 2012), we show that outside the CRM setting the "voting for charity" effect appears to largely result from strengthening of the customer-firm relationship.

THEORETICAL DEVELOPMENT

CRM Campaigns and Inviting Customers to Choose

Past research suggests that corporate philanthropy is associated with positive evaluations of the firm (Mohr and Webb 2005), more positive word of mouth (Walker and Kent 2009), and an increase in purchase intentions (Sen et al. 2006). However, there is also evidence that actual purchasing does not increase (Mohr et al. 2001). Indeed, a meta-analysis evaluating the relationship between corporate donations and financial performance across 1,881 companies found mixed financial performance, with an overall estimate of a small though positive relationship (Margolis et al. 2007).

One explanation for the weak link between charitable giving and financial performance is that customers do not see a direct link between their purchases and the amount that charities receive. It was this insight that led to an innovation in corporate philanthropy: cause-related marketing (CRM). CRM links the amount that a firm donates to the revenue from customers' purchases. This is generally framed as a donation of a portion of sales to charity. For instance, TOMS, a for-profit shoe company, has a one-for-one business model: with every pair of shoes purchased, the company donates a pair to an impoverished child.[3] Another well-known example

[3] "One for One." http://www.toms.com/improving-lives (accessed August 23, 2017).

is the 1 percent for the planet campaign in which companies pledge to donate at least 1 percent of their sales to non-profit environmental organizations. The campaign was founded in 2002 and has more than 1,200 business members worldwide.[4]

Research has shown that CRM programs can improve customer impressions of the company (Nan and Heo 2007) and increase demand for the target product (Andrews et al. 2014; and Gneezy et al. 2010). However, other research suggests that CRM increases customer scrutiny toward the brand, as customers often perceive these programs as merely reflective of a desire by companies to make a good impression rather than genuine concern for the cause (Bigné et al. 2012; Kim and Lee 2009; Mohr et al. 2001; Sen and Bhattacharya 2001; Singh et al. 2009; and Webb and Mohr 1998).

A more recent innovation in CRM campaigns is to allow customers to choose which charity will receive the donation. In a series of lab experiments and one small-scale field experiment, Robinson et al. (2012) show that inviting customers to choose which charity receives the firm's charitable donations significantly increases participant's purchase intentions. The studies explicitly link customers' purchasing with the amount donated to charity. As a result, a customer's decision to purchase may be interpreted by the customer as a contribution to a good cause. Allowing the customer to choose the charity further reinforces the customer's personal role in contributing to that cause. In this respect, the CRM setting may be unusually well-suited to this mechanism.

Gneezy et al. (2010) study a somewhat unusual pricing scheme. Customers are offered the option to "pay what they want" for a target product that is linked to a charitable donation. Consumers pay significantly more for a product when they learn that half of their payment would

[4] "Do More Together than you can Alone" http://www.onepercentfortheplanet.org/what-we-do/our-approach (accessed August 23, 2017).

support a charitable cause. Like Robinson et al. (2012), in the Gneezy et al. (2010) study it is unclear if the effect reflects customers' motivation to help the cause or reward the business for the initiative. A higher price contributes more money to both the firm and the charity.

Heterogeneous Treatment Effects

Although we start by measuring the impact of the experimental manipulations on aggregate revenue, we also compare which types of products are most affected. This analysis allows us to test two predictions that have been proposed in the literature. One prediction is that customers who are more responsive to environmental appeals are also more likely to purchase hedonic items. For example, recent research reveals that customers who bring reusable shopping bags to grocery stores are more likely to buy products that claim to be environmentally friendly, as well as more indulgent foods such as desserts, candy and potato chips (Karmarkar and Bollinger 2015). We may also see an increase in hedonic purchases if customers perceive that voting for charity is a virtuous act. There is strong evidence that customers who make virtuous choices feel licensed to make other less virtuous, more hedonic purchases (Fishbach and Dhar 2005; Khan and Dhar 2006). The second prediction is that engaging in prosocial behavior increases purchases of prosocial products (Gneezy et al. 2012). Therefore, we investigate whether we see larger increases in purchasing of ethical products or more indulgent products after customers engage in voting for charity.

We also evaluate which types of customers are most affected and test two contrasting predictions. Our data reveals the length of each customer's membership of the store. This allows us to examine whether new customers or customers with longer tenure are most influenced by

the voting for charity intervention. One view is that new customers who have not formed lasting impressions of the brand will be most affected. Another is that long-term customers will most appreciate being invited to share their preferences, making the impact of voting larger for these customers. For example, research evaluating charitable giving in the National Football League found that customers who more strongly identified with a team reported greater purchase intentions after learning of the charitable actions of the team (Walker and Kent 2009).

OVERVIEW OF EXPERIMENTS

In two field experiments in several locations of a membership-only warehouse club, customers were randomly assigned to either an information or voting condition. In the information condition they were informed about three charities that the retailer will support that month. In the voting condition they receive the same information and are also asked to vote on which of the three charities the retailer will give the largest donation to. The experimental design ensures that in both conditions, customers were exposed to the same information about the firm's charitable giving, and the firm gave the same amount to charity.

In experiment 1, we assess the impact of voting for charity on customer purchasing during a store visit, while also examining which types of products and which customers were most affected. In experiment 2, we examine whether voting for charity made it more likely that a new customer would purchase a regular paid membership versus an unpaid trial membership. In experiments 3, 4, and 5, we investigate the mechanisms underlying the voting for charity effect using the same paradigm as in experiment 1 but in a simulated shopping environment.

EXPERIMENT 1: VOTING FOR CHARITY AND CONSUMER PURCHASING

Experiment 1 was designed to investigate whether inviting customers to participate in a firm's corporate giving program affects purchasing on that store visit.

Methods

The experiment was conducted with a large membership warehouse. Customers pay a membership fee to shop at the retailer, which sells a broad range of customer products in bulk sizes at discounted prices. The experiment was conducted over 10 weekdays at one of this retailer's New England stores in the spring of 2014. Two research assistants dressed in employee uniforms were positioned at the front entrance of the store. They intercepted customers as they entered the store and implemented two experimental conditions.

In the voting condition, the assistants stated: "We would like to give you some information about <retailer name's> charitable giving to local organizations. We would also like you to vote for which of these local charities you want to receive our next charitable grant." They then gave the customers a 1-page description of three local charitable organizations, stating that this store planned to give a total of $4,500 that month to these charities. The three charities were selected by the retailer's charitable foundation and the local store manager: the local public library, the local Meals on Wheels organization, and another local charity. Customers were informed that the charity that received the most customer votes would receive a $2,500 grant, while the other two charities would receive a $1,000 grant. The customer was given a paper ballot and a pen and asked to check a box next to the charity they wished to receive the $2,500 grant (see Appendix M). The customer handed the completed ballot to the research assistant and

continued their shopping. The retailer subsequently made these grants in accordance with this policy.

In the information condition, the assistants stated: "We would like to give you some information about <retailer name's> charitable giving to local organizations" and gave customers the same 1-page description of three local charitable organizations stating that this store planned to give a total of $4,500 that month to these charities (see Appendix L). However, customers did not receive a ballot or a pen as they were not asked to vote on which charity should receive the grants.

The days were divided into two day-parts: mornings (9am – 1pm) and afternoons (2pm – 6pm) and the experimental treatments were rotated between these day parts across the 10 test days. We received transaction data that included a time stamp and we used this time stamp to match the transactions to the treatments. In particular, for the morning day-part we used transactions between 9am (the retailer opened at 9am each morning) and 1:15pm. For the afternoon day-part, we used transactions between 2:30pm and 6:15pm. We also investigated whether adjusting these transaction windows affected our results, but this had little impact.

To test for potential differences in beliefs about the firm's actions across these treatments, we ran a post-test where 408 participants on Amazon's Mechanical Turk platform were randomly assigned to review the materials from one of the treatments.[5] Participants were then asked, "How much money do you think <this retailer> will donate to local charitable organizations this month?" Participants were then given an open response option to type in the numeric value they believed would be donated. There were no differences in the amount participants thought would be donated between the information (M = $4,313.73, SD = $1,633.13)

[5] The mean age of the participants was 36.3, 80.8% are Caucasian and 47.3% are female.

and voting (M = \$4,314.18, SD = \$2,553.41) conditions, $t(406) = 0.00$, $p = 0.99$. Estimates in both conditions did not significantly differ from the \$4,500 actually donated ($ps > 0.11$).

Participants were then asked, "How likely is it that <this retailer> will actually donate the money they advertise?" Participants answered on a 1 (*Extremely Unlikely*) to 7 (*Extremely Likely*) scale. Participants in both the information (M = 6.13, SD = 1.05) and voting (M = 6.28, SD = 1.04) conditions expressed a high belief that the firm would actually donate according to the information provided and there were no significant differences across conditions, $t(406) = 1.47$, $p = 0.14$.

Results

Across the 10 days we implemented the treatment we observed 5,010 baskets in the information dayparts and 5,048 baskets in the voting dayparts. We received a total of 4,097 votes cast in the voting condition.[6] We were not able to identify which baskets were treated in our interventions. Assuming that each vote represented one basket, 81.16 percent of baskets in the voting condition were treated (4,097 votes and 5,048 baskets). However, in situations where a family or group of customers were shopping together only one vote was recorded for the group, and so it is possible that more than one basket is associated with a single vote.

It is likely that a similar percentage of customers were treated in the information treatment. Because we are not able to identify which baskets were treated and which were not, we analyze all data observed during each condition time block. This strategy is deliberately

[6] 66.3 percent of votes were cast for the Meals on Wheels organization, 31.7 percent were cast for the local public library, and 2.0 percent were cast for the other local charity.

conservative: we include customers who were likely not treated in our analyses of the effectiveness of the two treatments.

To confirm that customers in the voting and information conditions are equivalent we conducted a preliminary analysis to compare their pre-treatment purchasing patterns. In particular, we compared the total amount spend and total number of units purchased by customers in the 12 months prior to the treatment period. We conducted this comparison both with and without log transformations. Reassuringly, there was no significant difference in historical purchasing between customers associated with the baskets in the voting and information conditions. These findings are reported in Appendix N.

In our initial analysis we measured basket size using dollar revenue, with a log transformation to control for outliers. The average log revenue in the voting condition is 4.02, compared to 3.98 in the information condition. The difference between these averages is significant ($p < 0.05$, $t = 1.99$). The use of the log transformation means that the exponent of the difference between the two conditions reveals the percent difference in the basket sizes. Merely allowing customers to vote for their preferred charity – rather than simply informing them about the firm's charitable actions – increased their average basket sizes by 4.2 percent. The median basket size is $248, and so this translates to a $10.41 increase in the average basket size.

To control for stochastic differences in basket sizes across days and day parts, we also replicated this analysis using a multivariate approach. In particular, we obtained transaction data for the same day-parts for the 10 weekdays before the experiment started. We also obtained transaction data for 9 other stores located close to the "test store." We then estimated the following regression model:

$$Log\ Revenue_{isdt} = \sum \beta\ Store_s + \sum \beta\ Date_d + \sum \beta\ DayPart_t + \beta_1\ Historical\ Log\ Revenue_i \quad (1)$$
$$+ \beta_2\ Missing\ Historical\ Revenue_i + \beta_3\ Test\ Baskets_{sdt} + \beta_4\ Voting_{sdt} + \varepsilon_{isdt}.$$

The unit of analysis is a shopping basket. The dependent variable measures the log of revenue in a basket (the baskets are denoted by *i*). The $\sum\beta Store_s$, $\sum\beta Day_d$ and $\sum\beta DayPart_t$ terms refer to store, date and day-part fixed effects. The $Historical\ Log\ Revenue_i$ variable measures the historical basket size for that customer, calculated by averaging over each customer's transactions in the year prior to the start of the test. For a small proportion of the sample (1.2%) the customers made no purchases in the prior year. We identify these observations using a binary flag (*Missing Historical Revenue*) and set *Historical Log Revenue* to zero.

The $Test\ Baskets_{sdt}$ variable is a binary variable identifying the 10,058 baskets involved in the test (5,010 in the voting condition and 5,048 in the voting condition). The $Voting_{sdt}$ variable is a binary variable identifying the 5,048 baskets in the voting condition. Under this specification, the $Test\ Baskets_{sdt}$ variable controls for the difference in basket size between the 10,058 baskets in the test compared to all of the other baskets, including baskets on other dates and in other stores.

This is a standard model for estimating these types of effects. The coefficient of interest is the coefficient for the $Voting_{sdt}$ variable (β_3). This estimates the difference in basket size for baskets in the voting condition compared to the information condition, after controlling for store, date, date-part and customer (historical basket size) differences.[7]

[7] The inclusion of the $Test\ Baskets_{sdt}$ variable is critical to this interpretation. Without the $Test\ Baskets_{sdt}$ variable, the β_3 coefficient would describe the difference in basket size for baskets in the voting condition compared to all other baskets, including baskets on other dates and in other stores.

The model was estimated using 200,184 baskets, including 10 stores (the test store and 9 other stores), 20 dates (the 10 test dates and 10 pre-test dates), and 2 dayparts (morning and afternoon). Recall that the treatment was varied at the store x daypart level. To account for any correlation in the error terms across different customers within each store by daypart we cluster the standard errors at the store by daypart level.

The β_4 coefficient for the $Voting_i$ variable is equal to 0.0563, which is significantly different from zero ($p < 0.01$, $t = 4.40$). This corresponds to a 5.8 percent increase in average revenue. This analysis further confirms that allowing customers to vote for their preferred charity significantly increases their average basket sizes.

To demonstrate robustness, we repeated the analysis using several approaches. These included measuring basket size by units instead of revenue, and re-estimating the model without the 9 test stores, or without the 10 pre-test dates. We also estimated a customer-level panel model in which the observations included every basket purchased by customers in the 12 months prior to the test dates. The findings were robust to each of these replications, and the effects were even slightly larger using the customer-level panel model.

We conclude that there is consistent evidence that the voting condition increased basket sizes compared to the information condition. The robustness of the finding is likely helped by the experiment design, which implemented both treatments on the same day in the same store using the same research assistants. This eliminates the possibility that the results are due to store, day or staffing differences.

The voting condition repeated the procedure in the information condition, and then had an additional step (i.e. voting). As a result, customers spent more time interacting with the research assistants in the voting condition. To the extent that this reduced the time that customers

had available to shop, it is possible that the voting interaction might have reduced basket sizes. The increase in basket sizes occurred despite this additional time spent on the intervention.

While previous research suggests that voting for charity can increase purchase intentions for a target product in a CRM campaign (Robinson et al. 2012), the results of this large-scale field experiment suggest that voting for charity is effective even in the absence of a CRM campaign. There is another important difference between this study and Robinson et al. (2012). In their earlier study they measure the impact on a single targeted product. In this study we measure the change in demand across the store's entire product range. A natural question is whether the increase in demand is more pronounced in some product categories than in others. We investigate this issue next.

Prosocial Products

We investigate whether the voting treatment had a stronger impact on purchases of "prosocial products." Following the procedure of Karmarkar and Bollinger (2015), who classified products as 'green' by the presence of an organic label, we use product labels to categorize items as 'prosocial.' To identify these products, a research assistant visited one of the retailer's stores and identified products with 15 different packaging labels (see Table 2.1).

We calculated the proportion of revenue contributed by items with these labels in each basket, and then used the following multivariate model to separately estimate how this proportion varied between the baskets in each experimental condition.

$$Prosocial\ \%_{isdt} = \sum \beta\ Store_s + \sum \beta\ Date_d + \sum \beta\ DayPart_t + \beta_1\ Historical\ Log\ Revenue_i \quad (2)$$
$$+ \beta_2\ Missing\ Historical\ Revenue_i + \beta_3\ Historical\ Prosocial\ \%_i$$
$$+ \beta_4\ Test\ Baskets_{sdt} + \beta_5\ Voting_{sdt} + \varepsilon_{isdt}.$$

The unit of analysis is again a shopping basket. The model includes one additional control variable compared to Equation 1: *Historical Pro-Social %*$_{i.}$ This variable measures the proportion of revenue contributed by prosocial items in that customer's historical baskets (in the year prior to the test). The findings are summarized in Table 2.1, where we report the *Voting* (β_4) coefficients from estimating Equation 2 with different dependent variables identifying the proportion of each type of prosocial item.

Products with prosocial labels on their packaging contributed a significantly higher proportion of units in the voting condition than in the information condition: customers who were invited to vote for charity increased their purchases of prosocial items. The effect was statistically significant for the combination of all prosocial labels, together with the "Natural" and "Charitable or Ecological" labels.

Table 2.1
Change in Proportion of Prosocial Items or Revenue in Each Basket

	Proportion of Revenue
All Prosocial Labels	0.318%*
	(0.139%)
Organic	0.186%
	(0.201%)
Natural	0.058%**
	(0.011%)
Ingredient Free	0.025%
	(0.045%)
Charitable or Ecological	0.177%**
	(0.026%)

Note: This table reports the Voting (β_4) coefficients from estimating Equation 2 with different dependent variables identifying the proportion of each type of pro-social item. The unit of analysis is a basket and the sample size in all models is 200,184. Standard errors clustered at the store x daypart level are in parentheses.

The findings in Table 2.1 confirm that the outcome varied across different types of products. We next investigate whether it also varied across different types of customers.

Length of Membership

We divided customers into groups based upon the dates their memberships first started, and re-estimated Equation 1 separately for each group. When conducting the analysis for each sub-group, the coefficient for $Voting_i$ (β_3) continues to be identified from the experimental rotation of the two treatment conditions. The β_3 coefficients for each model are reported in Table 2.2.

The results indicate that voting for charity has the largest effect on customers who have been members for longer. One interpretation is that inviting customers to participate in a firm's charitable giving has a larger impact on the behavior of customers whose long associations with the firm give them a sense that they have earned the right to be involved in the firm's decision-making.

Table 2.2
Years of Membership and Basket Size

	Member for under 1 Year	Member for 1 to 2 Years	Member for 2 to 4 Years	Member for over 4 Years
Log Units	-0.0173 (0.0204)	0.0429* (0.0173)	0.0350 (0.0238)	0.0841* (0.0364)
Log Revenue	-0.0071 (0.0094)	0.0517 (0.0413)	0.0535† (0.0287)	0.0931** (0.0214)
Sample size	28,839	17,924	37,034	116,387

Note: This table reports the *Voting* regression coefficients (β_3) when re-estimating Equation 1 separately for each sub-group of baskets. We report separate findings when measuring basket size using the log of units and the log of revenue. Standard errors clustered at the store x daypart level are in parentheses.

The *Years of Membership* interaction also indicates that the effect is not simply due to a change in customers' brand perceptions. Customers who have been members for longer are likely to have well-established perceptions of the retailer's brand. It is these customers whose brand perceptions should be least sensitive to this type of experimental manipulation. If the effect was solely due to a change in customers' brand perceptions, we would have expected the opposite result: a smaller impact on customers who have been members for longer.

Additional Analyses

We also investigated a series of other customer and product interactions, including customer demographics, indicators of customers' price sensitivities, and hedonic versus utilitarian product classifications. The retailer obtains household-level demographics describing each of its members. We used these demographics to divide the customers into groups and repeated the multivariate analysis for each group of customers. Allowing customers to vote for charity had a more positive impact on the basket sizes of larger families (those with more than two children), and on male customers than on female customers. As a measure of customers' price sensitivity, we calculated the percent of items purchased with coupons in the 12-months before the start of the test. We did not observe significant differences between customers who used a lot of coupons and customers who used few coupons. We also measured the percentage of private label products purchased and again did not find any reliable differences. It appears that customers' price sensitivities do not play an important moderating role.

To explore whether voting for charity increased purchases of indulgent goods (Karmarkar and Bollinger 2015), a panel of 5 research assistants rated the product categories according to whether they were hedonic or utilitarian categories on a 1 (*Definitely Utilitarian*) to 7 (*Definitely Hedonic*) scale. The ratings demonstrated good inter-rater reliability ($r = .83$). We then conducted a series of analyses to investigate whether the voting treatment affected the types of products that customers purchased. We found no evidence of an increase in one type of product category compared to the other.

In our final analysis we investigate the return on investment (ROI) that the retailer earned from this first experiment.

Return on Investment

We calculated the ROI from the experiment using two approaches. In the first approach we focused solely on the labor cost of implementing the voting for charity campaign for one hour at a single store (using 2 people per hour). We then compared the average revenue earned per hour in the treatment and control conditions (in a single store). This comparison yielded a measure of the incremental revenue earned each store-hour. Using a fixed profit margin (provided by the retailer) we then calculated the return on investment as:

$$\frac{Incremental\ Profit\ Per\ Hour - Hourly\ Labor\ Cost}{Hourly\ Labor\ Cost}$$

The return on investment exceeded 1000%, indicating that this was a very profitable campaign. This calculation obviously omits the cost of the charitable contributions. In this case omitting the cost might be justified because the retailer intended to make the charitable contributions irrespective of whether we invited customers to vote. However, more generally, if the opportunity to increase revenue induces retailers to make incremental charitable contributions, then the cost of these contributions should be included in the ROI calculation.

The cost of the charitable contribution is a fixed cost, irrespective of how many days the voting for charity campaign is conducted (within a reasonable range). Therefore, we calculated how many days would be required to pay back the charitable contribution cost (in each store). The payback time is approximately 1 store-day. Across the ten half days that we implemented the campaign in each store the experiment was very profitable, even after including the cost of the charitable contribution in the ROI calculation.

We offer two caveats on these ROI calculations. First, the information condition also required a person to help implement the study. For this reason the incremental labor cost of implementing the voting condition was actually zero. This suggests our ROI calculation may be conservative. Second, our experimental design explicitly controls for the impact of just providing information about a retailer's charitable giving. It allows us to separate the information effect from the voting for charity effect. In practice, retailers are likely to evaluate whether to implement a voting for charity campaign versus neither voting nor information. Our experiment does not provide the incremental profit compared to no intervention (we only rotated the information and voting treatments during these store-days). As an approximation we investigated using other days at the focal store to compare the voting condition with a no-intervention condition. The increase in basket size attributable to voting for charity in this comparison was not significantly different from the increase in basket size when comparing the voting and information conditions.

Discussion

In this first experiment we have shown that inviting customers to vote for which charity receives the biggest donation leads to larger shopping baskets on that trip to the store. The effect is largest for customers who have had the longest tenure as members of the store. In the second experiment we switch the focus from existing customers to customers signing up for new memberships. By definition, these new customers have the shortest tenure with the store. We investigate whether inviting new customers to vote on the retailer's charitable contributions

causes more of these new customers to sign up for 1-year paid memberships rather than short-term free trial memberships.

EXPERIMENT 2: VOTING FOR CHARITY AND MEMBERSHIP

When a first-time customer visits the store to start a membership they can choose from three types of membership: trial memberships, regular memberships, or rewards memberships. A trial membership is free and allows the customer to shop at the membership club for 2 months. A regular membership is an annual membership that costs approximately $50. The rewards membership is a premium annual membership that has a higher membership fee ($100) but offers a rebate based on the amount that the customer purchases. Experiment 2 examines whether prospective members are more likely to upgrade to either one of the 12-month paid memberships in the voting condition than in the information condition.

Methods

All membership enquiries are processed at a membership service desk at the front of the store. The treatments were implemented by positioning an assistant dressed in a store employee uniform near this desk. The assistant intercepted customers as they approached the line and implemented the same voting and information treatments that were used in the first experiment. The three charitable organizations were different at each store and were local to each store. The total donation in this experiment was $5,000 for each store, distributed as $3,000 to the charity receiving the most votes, and $1,000 to each of the other two charities. The 1-page description of

three local charitable organizations used in both conditions and the ballot (used in the voting condition) are again reproduced in Appendix L and Appendix M.

After the voting and information conditions were implemented, customers were presented with a short survey. Unfortunately, the sample sizes were too small to generate meaningful results and so we do not discuss the results here (see survey instrument in Appendix O).

We also changed how the treatments were rotated. Recall that in experiment 1 the treatments were rotated across different times of the day. This rotation between day-parts was required as it was not possible in experiment 1 to rotate treatments between successive customers, and then match the customers' transaction to their treatments. In this second experiment, the treatments were rotated between successive customers. To match the treatments with the outcomes, the customers took their survey and voting forms (for those that voted) to the membership desk. After completing the transaction, the membership service representative then marked the form to indicate why the customer visited and the outcome of the transaction.[8]

The experiment was conducted over three weekends (6 days) in the winter of 2014 in four of the retailer's New England stores. On the first weekend of the experiment we piloted the procedure used to match the experimental treatments to the membership outcomes. The experimental outcomes were measured on the two subsequent weekends (4 days).

The membership desk is not just used by new members. There are many reasons an existing customer visits the membership desk, including asking for coupons, asking for a replacement card, or returning products. Because the reason for the visit was not apparent when the assistants were intercepting the customers, they implemented the voting or information

[8] We omitted the data collected by one research assistant. There was no variation in the reasons for visiting the service desk or in the responses to the survey questions. This is an implausible outcome, and strongly suggests that the assistant did not follow the survey procedures. We repeated the analysis including the results for this assistant; the increase in the conversion rate replicates even with this data included.

treatment with all customers. However, only 122 of the visits involved new customers. We focus on these 122 customers when evaluating the impact of voting on the type of membership that the customer started.

Results

We administered the voting and information treatment to all customers who entered the line for the membership desk. We received a total of 867 votes cast in the voting condition: 12.1 percent (208 votes) were cast for the local public library, 18.6 percent (319 votes) were cast for the local education fund, and 19.8 percent (340 votes) were cast for the local food pantry. These results were consistent across all four stores: therefore each store donated $3,000 to their local food pantry, $1,000 to their local library and $1,000 to their local education fund. We administered the information condition to 846 individuals.

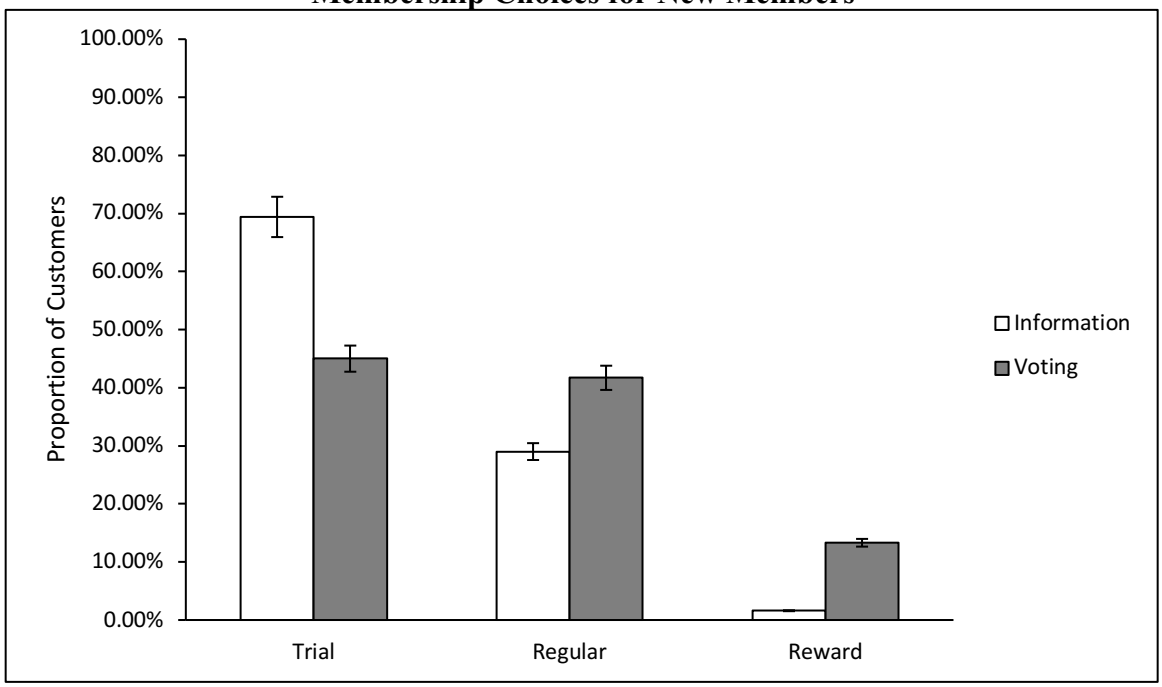
Table 2.3 and Figure 2.1 reveal the membership types chosen by new members in the voting and information conditions. The voting condition had a positive impact on the proportion of new members that chose upgraded memberships. In the information condition, 30.6 percent of new members chose the regular or rewards membership. In the voting condition, 55.0 percent converted to the regular or rewards membership. This difference in the conversion rate (55.0 percent versus 30.6 percent) is statistically significant ($p < 0.01$, $t = 2.78$). It is also managerially important. Increasing the conversion rate by even a small percentage has the potential to create tremendous economic benefits for this retailer. Because membership fees do not have a direct cost of goods sold, they constitute an important source of profit for membership clubs.

Table 2.3. Membership Outcomes for New Members

	Voting Condition	Information Condition	Difference
Trial membership	27	43	
Regular membership	25	18	
Rewards membership	8	1	
Total	**60**	**62**	
% Trial	45.0%	69.4%	-24.4%** (8.8%)
% Regular	41.7%	29.0%	12.6% (8.7%)
% Rewards	13.3%	1.6%	11.7%* (4.7%)

Note: The table reports the number and proportion of new members who chose each membership outcome, by experimental condition. Standard errors are in parentheses.

Figure 2.1
Membership Choices for New Members



Note: This figure reports the proportion of each membership type obtained by new customers in each experimental condition. Error bars indicate 95% confidence intervals. The sample sizes are 60 and 62 for the voting and information conditions (respectively).

If we restrict attention to new members who chose to upgrade, we can also compare the proportion that chose the premium-level rewards membership over the regular membership. This proportion is also higher in the voting condition (24 percent) compared to the information condition (5 percent). However, the sample size is small, and so this difference is only marginally significant ($p < 0.09$, $t = 1.76$).

Because these are new customers, we are not able to compare how the response differed according to customers' purchasing histories. We were also unable to collect the customers' membership numbers, which prevented us from comparing their in-store spending. However, we can calculate the return on investment (ROI) using the average profit earned from new trial, regular and premium members.

Return on Investment

To calculate the average profits earned from new members we used every new member who joined in 2014. We calculated the average profit earned from these new members, including membership fees paid and the profit margin earned on store purchases. We used two different measurement windows; 1 year after the new member joined, and two years after the new member joined.

As with experiment 1, we again calculated the ROI using two approaches. In the first approach we calculated the average cost of implementing the experiment for an hour in a single store (using 1 person). We then calculated the incremental profit earned in the voting condition in each store-hour (compared to the information condition).[9] The return on investment is

[9] To calculate the average profit earned from a new member in the voting and information conditions we used the average profit for each type of new member (using the new members in 2014) and weighted according to the

approximately 300% if we focus on profits earned over the next year, and over 500% if we focus on profits earned over the next two years.

In our second approach we asked how many hours the campaign would need to be implemented in a single store to pay back the cost of the charitable contributions by that store. Using a 1-year profit window the payback period is approximately 90 hours. With a 2-year window the payback is reduced to just 50 hours.

The two caveats that we identified when discussing the ROI for experiment 1 also apply to this experiment. There is also an additional limitation to this analysis in Experiment 2. The new members acquired in 2014 were not exposed to a voting for charity campaign when they initiated their memberships.[10] For this reason, it is possible that the average profits earned from each new membership type may differ from the averages calculated using the 2014 data. However, in defense of these estimates, the length of the initial membership (trial or one year) and whether or not the new customer paid a membership fee are two of the most important factors contributing to the differences in average profits between membership types. These two factors exist irrespective of whether new customers are exposed to a voting for charity campaign.

We conclude that like experiment 1, this second experiment confirmed that *voting for charity* has the potential to improve firm profits. Because we only conducted the experiment for 32 hours in each store (4 days and 8 hours per day), the actual return on investment was negative. However, the findings indicate that extending the campaign for additional days is very likely to result in a profitable outcome.

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proportion of membership types chosen in each condition (as reported in Figure 2.1). The difference between the average profits in the two conditions revealed the incremental profit for each new member attributable to *voting for charity*. We then multiplied this incremental profit by the average number of new members in each store-hour.

[10] With the exception of the 60 new customers in the voting condition.

Discussion

In this second experiment we have again confirmed that a voting for charity campaign can yield positive outcomes for a firm even in the absence of a direct CRM link. We also extend the findings from experiment 1 to show that voting for charity is capable of not just increasing in-store spending on a single day for existing customers. It can also change the types of memberships that new customers choose, which has a much longer-term impact than just purchasing on a single store visit.

This extension is also notable given the evidence in experiment 1 that the voting for charity effect is larger on customers who have a longer tenure with the retailer. We confirm that there is an effect even amongst customers with the shortest tenure.

Because our experiments occurred in the field we gain a clearer understanding of how voting for charity can impact actual purchasing behavior rather than just changes in purchase intentions. However, a limitation of field experiments is they are generally not well suited to investigating the underlying psychological mechanisms driving the results (Simester 2017). For this reason we extend our findings with three experiments conducted using online samples.

EXPERIMENT 3: VOTING FOR CHARITY AND CONSUMER-FIRM RELATIONSHIPS

We investigate two explanations for why voting for charity increases demand even outside a CRM setting. The first explanation is that inviting customers to participate in the firm's choice of which charity should receive a donation results in customers feeling that they have a closer relationship with the firm. In our experiment the voting involved the allocation of

thousands of dollars. By making this decision together the customer and the firm are partnering in a meaningful decision.

The second explanation has previously been used to explain why voting for charity is effective in a CRM setting. Because a CRM campaign links a customer's purchase to the amount the firm gives to charity the customers can justify their purchase as (at least in part) a contribution to charity (Robinson et al. 2012). Notice that these two mechanisms are distinct; one is focused on the relationship between the customer and the firm, and the other is focused on the motivation to give to charity.

Methods

Experiment 3 was an online survey in which we recruited 408 participants through Amazon's Mechanical Turk (43.8% female; M_{age} = 35.40, SD = 4.88; 76.3% Caucasian). Participants were asked to imagine they were shopping at a retailer and that an employee greeted them as they were entering the store. We manipulated the content of the employee greeting between participants using the same design as experiment 1.

In the voting condition, participants imagined that the store employee greeted them by stating, "I would like to give you some information about <retailer name's> charitable giving to local organizations. I would also like you to vote for which of these local charities you want to receive our next charitable grant." Participants were then presented with the information given to customers in experiment 1 describing three charitable organizations and the store's plan to give a total of $4,500 that month to these charities (see Appendix L). Participants were then presented

with a ballot (as in our field experiments) asking them to check a box next to the charity they wished to receive the $2,500 grant (see Appendix M).

In the information condition, the store employee stated, “I would like to give you some information about <retailer name’s> charitable giving to local organizations.” Participants were then presented with the information given to customers in experiment 1 describing three charitable organizations and the store’s plan to give a total of $4,500 that month to these charities. Participants in this condition did not receive a ballot and were not asked to vote on which charity would receive the grants.

Total Spending. Participants were then asked to imagine that they continued with their shopping at the retailer and were presented with a list of 10 items (see Appendix P). Participants were asked to select which item(s) (if any) they would like to place in their shopping cart to purchase. We summed the price of all the selected items to generate a total consumption measure as our primary dependent measure (*Total Spending*).

Perceived Relationship with the Firm. Finally, we assessed participants’ perceived relationship with the retailer using a three-item scale. In particular, each participant was asked to what extent the interaction with the store employee: “Made you see yourself as more than a customer to this company”, “Made you consider the financial health of this company as important”, and “ Made you feel like a contributor to this company” on a 1 (*Not at All*) to 7 (*A Great Deal*) scale. Cronbach’s α across the response to these three items was 0.89. We labeled the average response to these three items: *Relationship with the Firm.*

Perceived Personal Role. We also measured whether voting for charity heighted participants’ perceived personal role in helping charitable causes. To measure the participant’s perceived role in giving to charity we used the same three-item scale that Robinson et al. (2012)

used. In particular, each participant was asked to what extent shopping at <retailer name> would make them feel as though they: "Added value to charitable causes", "Helped charitable causes", and "Contributed to charitable causes" on a 1 (*Not at All*) to 7 (*A Great Deal*) scale. Cronbach's α across the response to these three items was 0.97. We labeled the average response to these three items: *Contributing to Charity*.

Results

In Table 2.4 we report the average of *Total Spending*, *Relationship with the Firm*, and *Contributing to Charity* separately for the participants in the two conditions.

Table 2.4
Average Responses in Experiment 3

	Voting Condition	Information Condition	Difference
Total Spending	\$103.80	\$80.71	\$23.08** (\$7.51)
Relationship with the Firm	4.30	3.86	0.44** (0.17)
Contributing to Charity	4.72	4.33	0.38* (0.18)
Sample Size	202	204	

Note: The table reports the average outcome across participants in each condition. Standard errors are in parentheses.

There are several findings of interest. First, we see a significance increase in *Total Spending* in the voting condition. This replicates the findings in experiment 1. Second, we also see a significant increase in the *Relationship to Firm* measure in the voting condition. This

supports our argument that voting for charity strengthens customers' perceptions of their relationship with the firm.

Finally, we also see a significant increase in the *Contributing to Charity* measure in the voting condition. This result is more surprising. Recall that in the absence of a CRM campaign we had conjectured that a lack of a direct link between a customer's purchase and the size of the retailer's gift would make it more difficult for customers to interpret their purchase as a contribution to charity. The findings in Table 2.4 suggest that despite the absence of this direct link, the voting for charity intervention is more likely to result in customers concluding that they are helping a charitable cause.

One interpretation is that customers understand that they help a charity by voting that it will receive a larger donation. Customers may think they are helping the charity but this help comes through their vote not through their purchase.

Even though customers may contribute by voting for a charity, helping a charity by voting may not lead to an increase in purchasing. In the absence of a CRM campaign, purchasing does not increase the size of the gift that the charity receives. Therefore, we next investigate whether the *Relationship to Firm* and *Contributing to Charity* measures explain variation in *Total Spending* using the following OLS model:

$$\textit{Total Spending}_i = \alpha + \beta_1 \textit{ Voting}_i + \beta_2 \textit{ Relationship with the Firm}_i + \beta_3 \textit{ Contributing to Charity}_i + \varepsilon_i \quad (3)$$

The *Voting* variable is a binary flag identifying participants in the voting condition. Notice that the inclusion of the *Voting* variable controls for the direct effect of the treatment on *Total Spending*. Including this variable is important as otherwise *Relationship to Firm* and *Contributing to Charity* could be correlated with *Total Spending* because they are all correlated

with *Voting*. The experimental manipulation must be controlled for when investigating which mechanism contributed to the change in *Total Spending* (see Judd and Kenny 1981; James and Brett 1984; and Baron and Kenny 1986). The findings are reported in Table 2.5.

Table 2.5
The Moderating Role of the Firm Relationship and Contributions to Charity

	Total Spending
Voting	\$19.13*
	(\$7.45)
Relationship with the Firm	\$6.83*
	(\$3.27)
Contributing to Charity	\$2.39
	(\$2.99)
Intercept	\$44.00**
	(\$10.65)
R^2	0.0609

Note: The table reports coefficients estimates from Equation 3. The unit of analysis is a participant in Experiment 3 and the dependent variable is *Total Spending*. Standard errors are in parentheses. The sample size is 406 participants.

The findings reveal a significant positive relationship between *Relationship with the Firm* and *Total Spending*. There was an increase in *Total Spending* when the *Relationship with the Firm* was stronger. This is consistent with our argument that voting for charity both strengthened a customer's perceived relationship with the firm, and that this contributed to the increase in spending. It is also consistent with the evidence in experiment 1 that the voting for charity effect is largest among customers who have the longest tenure with the firm. This long association with the firm (together with survival bias) suggest that these are the customers who are most likely to have a stronger relationship with the firm.

In contrast we do not observe a positive interaction between *Total Spending* and *Contributing to Charity*. Although customers in the voting condition were more likely to believe

they were contributing to charity (Table 2.4), this effect did not appear to contribute to an increase in *Total Spending* (Table 2.5). As we discussed, customers could perceive they were contributing to a charity by helping decide that the charity should receive a larger gift. However, in the absence of a CRM campaign, which creates a direct link between their purchase and the size of the firm's gift, customers do not make an additional contribution to charity through higher spending.

It is notable that the *Voting* coefficient is also significant in Table 2.5. This indicates that the *Relationship with the Firm* does not completely explain the relationship between voting for charity and the increase in *Total Spending*. While we have provided evidence that strengthening the relationship with the firm is an important mechanism, it appears that there are also other mechanisms that contribute to the effect.

Discussion

We have provided evidence that voting for charity in the absence of a CRM campaign may strengthen a customer's perceived relationship with the firm, and lead to customers believing they are contributing to charity. We have also shown that the stronger relationship with the firm is associated with an increase in spending. However, we do not find a relationship between perceptions that a customer is contributing to charity and changes in total spending.

To help interpret these findings we recognized that a customer can contribute to charity in different ways. Voting for charity is a contribution to the extent that a customer helps a charity receive a larger donation. However, in the absence of a CRM campaign, there is no direct link

between purchasing and the size of the gift that the customer receives. Therefore, spending more does not lead to an additional charitable contribution.

These results suggest that voting for charity increases spending through a different mechanism in the presence versus absence of a CRM campaign. Robinson et al. (2012) have previously shown that in the presence of a CRM campaign the perception that the customer is contributing to charity plays an important role. In the absence of a CRM campaign, voting for charity allows the customer to participate with the firm in making a meaningful decision. This participation strengthens the customer's relationship with the firm, and it is this strengthening of the relationship that leads to an increase in purchasing.

EXPERIMENT 4: VOTING FOR CHARITY, CAUSE RELATED MARKETING AND CONSUMER-FIRM RELATIONSHIPS

In this experiment, we continue to investigate consumer-business relationship perceptions and perceived personal role in helping charity for why voting for charity increases demand and compare these explanations to a cause related marketing and information only setting.

Methods

Experiment 4 was an online survey in which we recruited 462 participants through Amazon's Mechanical Turk (47.0% female; M_{age} = 35.09, SD = 10.27; 79.3% Caucasian). Participants were asked to imagine they were shopping at a retailer and that an employee greeted them as they were entering the store. We manipulated the content of the employee greeting

between participants using the same design as experiment 3, but added an additional condition communicating a cause related marketing campaign.

In the voting condition, participants imagined that the store employee greeted them by stating, “I would like to give you some information about <retailer name’s> charitable giving to local organizations. I would also like you to vote for which of these local charities you want to receive our next charitable grant.” Participants were then presented with the information given to customers in experiment 1 describing three charitable organizations and the store’s plan to give a total of $4,500 that month to these charities (see Appendix L). Participants were then presented with a ballot (as in our previous experiments) asking them to check a box next to the charity they wished to receive the $2,500 grant (see Appendix M).

In the information condition, the store employee stated, “I would like to give you some information about <retailer name’s> charitable giving to local organizations.” Participants were then presented with the information given to customers in experiment 1 describing three charitable organizations and the store’s plan to give a total of $4,500 that month to these charities. Participants in this condition did not receive a ballot and were not asked to vote on which charity would receive the grants.

In the cause related marketing condition, the store employee stated, “I would like to give you some information about <retailer name’s> charitable giving to local organizations.” Participants were then presented with information describing three charitable organizations and the store’s plan to give 5 percent of sales up to a total of $4,500 that month to these charities. Participants in this condition did not receive a ballot and were not asked to vote on which charity would receive the grants.

Total Spending. Directly following this intervention, participants were then asked to imagine that they continued with their shopping at the retailer and were presented with a list of 10 items (Appendix P). Participants were asked to select which item(s) (if any) they would like to place in their shopping cart to purchase. We summed the price of all the selected items to generate a total consumption measure as our primary dependent measure (*Total Spending*).

Perceived Relationship with Firm and Personal Role. Following the shopping task, participants completed the same two measures from Experiment 3 (presented to participants in randomized order): perceived relationship with the firm ($\alpha = .92$) and perceived contribution to charity ($\alpha = .97$).

Results

In Table 2.6 we report the average of *Total Spending*, *Relationship with the Firm*, and *Contributing to Charity* separately for the participants in the three conditions.

Table 2.6
Average Responses in Experiment 4

	Voting Condition	Information Condition	Cause Related Marketing Condition
Total Spending	\$98.52 (\$6.53)[a]	\$80.25 (\$5.02)	\$98.82 (\$7.02)[a]
Relationship with the Firm	4.32 (.13) [ab]	3.44 (.14)	3.68 (.14)
Contributing to Charity	4.93 (.14) [ab]	4.04 (.14)	4.31 (.15)
Sample Size	153	155	154

Note: The table reports the average outcome across participants in each condition. Standard errors are in parentheses. [a] significantly different from the information condition ($p < .05$); [b] significantly different from the cause related marketing condition ($p < .05$).

There are several findings of interest. First, we see a significance increase in *Total Spending* in the voting and cause related marketing conditions. This replicates the findings in experiment 1 and experiment 3 where we found a significant difference between the voting and information conditions. Second, we also see a significant increase in the *Relationship to Firm* measure in the voting condition. This replicates our finding from experiment 3 and supports our argument that voting for charity strengthens customers' perceptions of their relationship with the firm. The cause related marketing condition does not appear to increase perceived relationship to the firm.

Finally, we also see a significant increase in the *Contributing to Charity* measure in the voting condition but not in the cause related marketing condition. The findings in Table 2.6 suggest that despite the absence of a direct link between a customer's purchase and the size of the retailer's gift, the voting for charity intervention is more likely to result in customers concluding that they are helping a charitable cause.

We next investigate whether the *Relationship to Firm* and *Contributing to Charity* measures explain variation in *Total Spending* using the following OLS model:

$$\textit{Total Spending}_i = \alpha + \beta_1 \textit{ Voting}_i + \beta_2 \textit{ Relationship with the Firm}_i + \beta_3 \textit{ Contributing to Charity}_i + \varepsilon_i \quad (4)$$

The *Voting* variable is a binary flag identifying participants in the voting condition. Notice that the inclusion of the *Voting* variable controls for the direct effect of the treatment on *Total Spending*. Including this variable is important as otherwise *Relationship to Firm* and *Contributing to Charity* could be correlated with *Total Spending* because they are all correlated with *Voting*. The experimental manipulation must be controlled for when investigating which

mechanism contributed to the change in *Total Spending* (see Judd and Kenny 1981; James and Brett 1984; and Baron and Kenny 1986). The findings are reported in Table 2.7.

The findings reveal a significant positive relationship between *Relationship with the Firm* and *Total Spending*. There was an increase in *Total Spending* when the *Relationship with the Firm* was stronger. This is consistent with our argument that voting for charity both strengthened customers perceived relationship with the firm, and that this contributed to the increase in spending. It is also consistent with the evidence in experiment 1 that the voting for charity effect is largest among customers who have the longest tenure with the firm. This long association with the firm (together with survival bias) suggest that these are the customers who are most likely to have a stronger relationship with the firm.

Table 2.7
The Moderating Role of the Firm Relationship and Contributions to Charity

	Total Spending
Voting	\$2.74
	(\$7.76)
Relationship with the Firm	\$8.82**
	(\$3.47)
Contributing to Charity	-\$0.57
	(\$3.30)
Intercept	\$60.50***
	(\$9.59)
R^2	0.036

Note: The table reports coefficients estimates from Equation 4. The unit of analysis is a participant in Experiment 4 and the dependent variable is *Total Spending*. Standard errors are in parentheses. The sample size is 462 participants.

In contrast we do not observe a positive interaction between *Total Spending* and *Contributing to Charity*. Although customers in the voting condition were more likely to believe they were contributing to charity (Table 2.6), this effect did not appear to contribute to an increase in *Total Spending* (Table 2.7). As we discussed, customers could perceive they were contributing to a charity by helping decide that the charity should receive a larger gift. However, in the absence of a cause related marketing campaign, which creates a direct link between their purchase and the size of the firm's gift, customers do not make an additional contribution to charity through higher spending.

Discussion

We have provided evidence that voting for charity in the absence of a cause related marketing campaign may strengthen a customer's perceived relationship with the firm, and lead to customers believing they are contributing to charity. We have also shown that the stronger relationship with the firm is associated with an increase in spending.

EXPERIMENT 5: TESTING ADDITIONAL MECHANISMS AND COMPARING A CONTROL CONDITION

In this experiment, we continue to investigate consumer-firm relationship perceptions and perceived personal role in helping charity for why voting for charity increases demand and compare these explanations to an information setting and a control condition with no charitable

information presented at all. Further, we also evaluate corporate trust, brand loyalty, reciprocity motivation and annoyance as possible process variables.

Methods

Experiment 5 was an online survey in which we recruited 307 participants through Amazon's Mechanical Turk (46.3% female; M_{age} = 35.90, SD = 11.02; 75.9% Caucasian). Participants were asked to imagine they were shopping at a retailer and that an employee greeted them as they were entering the store. We manipulated the content of the employee greeting between participants using the same design as experiment 3 but added an additional control condition where no charitable information was included in the employee greeting.

In the voting condition, participants imagined that the store employee greeted them by stating, "I would like to give you some information about <retailer name's> charitable giving to local organizations. I would also like you to vote for which of these local charities you want to receive our next charitable grant." Participants were then presented with the information given to customers in experiment 1 describing three charitable organizations and the store's plan to give a total of $4,500 that month to these charities (see Appendix L). Participants were then presented with a ballot (as in our previous experiments) asking them to check a box next to the charity they wished to receive the $2,500 grant (see Appendix M).

In the information condition, the store employee stated, "I would like to give you some information about <retailer name's> charitable giving to local organizations." Participants were then presented with the information given to customers in experiment 1 describing three charitable organizations and the store's plan to give a total of $4,500 that month to these

charities. Participants in this condition did not receive a ballot and were not asked to vote on which charity would receive the grants.

In the control condition, participants were asked to imagine that store employee greeted them as they entered the store. Participants in this condition did not receive any information about the retailer's charitable giving to local organizations nor did they receive a ballot to vote on which charity would receive the grants.

Total Spending. Directly following this intervention, participants were asked to imagine that they continued with their shopping at the retailer and were presented with a list of 10 items (Appendix P). Participants were asked to select which item(s) (if any) they would like to place in their shopping cart to purchase. We summed the price of all the selected items to generate a total consumption measure as our primary dependent measure (*Total Spending*).

Following the shopping task, participants completed a number of measures assessing their thoughts and feelings regarding the interaction with the store employee. These measures were presented to participants in a randomized order.

Perceived Relationship with the Firm. We assessed participants' perceived relationship with the retailer using the same three-item scale as in experiments 3 and 4. In particular, each participant was asked to what extent the interaction with the store employee: "Made you see yourself as more than a customer to this company", "Made you consider the financial health of this company as important", and "Made you feel like a contributor to this company" on a 1 (*Not at All*) to 7 (*A Great Deal*) scale. In addition to these questions, participants also completed two questions from the Brand Attachment Scale (Park, MacInnis, Priester, Eisingerich and Iacobucci 2010). In particular, each participant was asked to what extent the interaction with the store employee: "Made you feel personally connected to this company," and "Made you feel like this

company was part of you and who you are" on a 1 (*Not at All*) to 7 (*A Great Deal*) scale. All five of these questions loaded onto a single factor and Cronbach's α across the response to these five items was 0.94. We labeled the average response to these five items: *Relationship with the Firm*.

Perceived Personal Role. We also measured whether voting for charity heighted participants' perceived personal role in helping charitable causes. To measure the participant's perceived role in giving to charity we used the same three-item scale from Robinson et al. (2012). In particular, each participant was asked to what extent shopping at <retailer name> would make them feel as though they: "Added value to charitable causes", "Helped charitable causes", and "Contributed to charitable causes" on a 1 (*Not at All*) to 7 (*A Great Deal*) scale. Cronbach's α across the response to these three items was 0.97. We labeled the average response to these three items: *Contributing to Charity*.

Reciprocity Motivation. Participants also completed two items from the Reciprocity Scale (Pervan, Bove and Johnson 2009). Participants rated the extent to which the greeting of the store employee made them, "want to provide <retailer name> benefits it had offered you", and "desire to behave equitably with <retailer name>" on a 1 (*Not at All*) to 7 (*A Great Deal*) scale. These two items were highly correlated ($r = 0.82$, $p < .001$), and we labeled the average response to these three items: *Reciprocity Motivation*.

Brandy Loyalty. Participants also completed the Brand Loyalty scale (Aaker 1996). Participants rated the extent to which they agreed with the following statements: "I consider myself to be loyal to <retailer name>", "To me, <retailer name> is clearly the best brand on the market", and "I would recommend <retailer name> to others" on a 1 (*Not at All*) to 7 (*A Great Deal*) scale. Cronbach's α across the response to these three items was 0.90. We labeled the average response to these three items: *Brand Loyalty*.

Brand Trust. Participants also completed a three-item Brand-Trust scale (Delgado-Ballester and Munuera-Aleman 1999). Participants rated the extent to which they agreed with the following statements: "<Retailer name> offers high quality products", "<Retailer name> would help me solve any problem I have with their products", and "<Retailer name> is interested in my satisfaction" on a 1 (*Not at All*) to 7 (*A Great Deal*) scale. Cronbach's α across the response to these three items was 0.87. We labeled the average response to these three items: *Brand Trust*.

Annoyance. We also measured whether the charity manipulations increased consumer annoyance. Participants rated the extent to which they felt the greeting of the store employee was "annoying", "self-promoting", and "a waste of time" on a 1 (*Not at All*) to 7 (*A Great Deal*) scale. Cronbach's α across the response to these three items was 0.84. We labeled the average response to these three items: *Annoyance*.

Results

In Table 2.8 we report the average of *Total Spending*, *Relationship with the Firm*, *Contributing to Charity, Reciprocity Motivation, Brand Loyalty, Brand Trust,* and *Annoyance* separately for the participants in the three conditions.

Table 2.8
Average Responses in Experiment 5

	Voting Condition	Information Condition	Control Condition
Total Spending	\$80.76 (\$7.51)[ab]	\$58.50 (\$5.87)	\$56.62 (\$5.79)
Relationship with the Firm	3.84 (.14) [ab]	3.35 (.15)	3.24 (.17)
Contributing to Charity	4.42 (.16) [b]	4.11 (.18) [b]	2.37 (.16)

Reciprocity Motivation	4.12 (.15) [b]	3.80 (.17)	3.46 (.18)
Brand Loyalty	4.07 (.14) [b]	3.88 (.15)	3.61 (.16)
Brand Trust	5.03 (.11)	5.00 (.11)	4.87 (.12)
Annoyance	2.77 (.14)	3.04 (.17) [b]	2.41 (.14)
Sample Size	100	103	104

Note: The table reports the average outcome across participants in each condition. Standard errors are in parentheses. [a] significantly different from the information condition ($p < .05$); [b] significantly different from the Control condition ($p < .05$).

There are several findings of interest. First, we see a significant increase in *Total Spending* in the voting condition. This replicates the findings in experiment 1, experiment 3 and experiment 4 where we found a significant difference between the voting and information conditions. *Total Spending* in the voting condition was also significantly higher than the control condition, however, there were no differences in *Total Spending* between the information and control conditions. Second, as in experiment 3 and experiment 4, we also see a significant increase in the *Relationship to Firm* measure in the voting condition, supporting our argument that voting for charity strengthens customers' perceptions of their relationship with the firm.

We also see a significant increase in the *Contributing to Charity* measure in the voting condition compared to the control condition, however, we did not find a significant difference in *Contributing to Charity* between the voting and information conditions ($p = .20$). The findings in Table 2.8 suggest that despite the absence of a direct link between a customer's purchase and the size of the retailer's gift, the voting for charity intervention is more likely to result in customers concluding that they are helping a charitable cause.

Relative to the control condition, participants reported greater *Reciprocity Motivation* and *Brand Loyalty* in the voting condition, but scores in the information condition were not significantly different from control or voting. Further, there was no differences in *Brand Trust* across conditions.

Finally, participants found the employee greeting in the information condition to be more annoying than the greeting in the control condition. There was no difference in consumer annoyance between the voting condition and the control or information conditions.

We next investigate whether the *Relationship to Firm*, *Contributing to Charity, Reciprocity Motivation, Brand Loyalty, Brand Trust,* and *Annoyance* measures explain variation in *Total Spending* using the following OLS model:

$$\textit{Total Spending}_i = \alpha + \beta_1 \textit{ Voting}_i + \beta_2 \textit{ Relationship with the Firm}_i + \beta_3 \textit{ Contributing to Charity}_i + \beta_4 \textit{ Reciprocity Motivation}_i + \beta_5 \textit{ Brand Loyalty}_i + \beta_6 \textit{ Brand Trust}_i + \beta_7 \textit{ Annoyance}_i + \varepsilon_i \quad (4)$$

The *Voting* variable is a binary flag identifying participants in the voting condition. Notice that the inclusion of the *Voting* variable controls for the direct effect of the treatment on *Total Spending*. Including this variable is important as otherwise *Relationship to Firm*, *Contributing to Charity, Reciprocity Motivation, Brand Loyalty, Brand Trust* and *Annoyance* could be correlated with *Total Spending* because they are all correlated with *Voting*. The experimental manipulation must be controlled for when investigating which mechanism contributed to the change in *Total Spending* (see Judd and Kenny 1981; James and Brett 1984; and Baron and Kenny 1986). The findings are reported in Table 2.9.

The findings reveal a significant positive relationship between *Relationship with the Firm* and *Total Spending*. There was an increase in *Total Spending* when the *Relationship with the Firm* was stronger. This is consistent with our argument that voting for charity both strengthened customers perceived relationship with the firm, and that this contributed to the increase in spending.

Table 2.9
The Moderating Role of the Firm Relationship and Contributions to Charity

	Total Spending
Voting	$15.02
	($7.93)
Relationship with the Firm	$13.34***
	($3.85)
Contributing to Charity	$2.27
	($2.58)
Reciprocity Motivation	-$6.03
	($3.54)
Brand Loyalty	$2.86
	($3.97)
Brand Trust	$1.90
	($4.23)
Annoyance	$3.43
	($2.42)
Intercept	-$1.31
	($19.18)
R^2	0.130

Note: The table reports coefficients estimates from Equation 4. The unit of analysis is a participant in Experiment 5 and the dependent variable is *Total Spending*. Standard errors are in parentheses. The sample size is 307 participants.

In contrast we do not observe a positive interaction between *Total Spending* and our other variables. Although customers in the voting condition were more likely to believe they were contributing to charity, reported greater reciprocity motivation and greater brand loyalty (Table 2.8), these effects did not appear to contribute to an increase in *Total Spending* (Table 2.9).

It is notable that the *Voting* coefficient becomes non-significant in Table 2.9. This indicates that the *Relationship with the Firm* completely explains the relationship between voting for charity and the increase in *Total Spending*.

Discussion

We have provided evidence that voting for charity in the absence of a cause related marketing campaign may strengthen a customer's perceived relationship with the firm and leads to customers spending more at the store.

GENERAL DISCUSSION

Two field experiments document the effectiveness of a novel form of consumer involvement in firm donations. Inviting firms to vote on which charity will receive a retailer's largest charitable gift both increases existing customers' purchasing during a store visit and encourages new customers to upgrade to a paid store membership.

Notably, these outcomes occur without a CRM campaign directly linking customer purchases with the size of the retailer's gift. The robustness of the voting for charity effect even in the absence of a CRM campaign greatly extends the potential application of this effect. It also suggests that the effect is not driven solely by a motivation to contribute to charity. Because the size of the retailer's gift was fixed irrespective of a customer's purchase, it is less apparent that customers can interpret their purchase as a contribution to charity. Instead, we present evidence that voting for charity works without a CRM campaign for a different reason than it works with a CRM campaign. By involving customers in a meaningful firm decision, voting for charity appears to strengthen the relationship between the customer and the firm, and this contributes to the increase in customer purchasing.

The results also shed light on which customers and which products are most affected by the intervention. In experiment 1, we observed the largest increases in basket sizes for customers who had been members for longer. The effects were also larger on products that had prosocial packaging labels, such as associations with a charitable or ecological cause.

Our work also contributes to the literature on consumer empowerment. Previous research has suggested that soliciting consumer input into a firm's product offerings makes consumers more likely to buy these products (e.g., Franke et al. 2009; Fuchs et al. 2010; Fuchs and Schreier 2011). This suggests that allowing consumers to vote on other firm decisions could also increase purchases. Future research is required to investigate the boundaries of this voting effect. Future research is also needed to more completely unpack the mechanisms driving the effectiveness of voting for charity. We find consistent evidence that voting gives consumers the perception of a stronger relationship with the firm, but we also found some evidence that voting increases trust and brand loyalty. With typical CRM programs a donation is contingent on making a purchase, in our interventions a customer is able to cast a vote regardless of whether they purchase or not. It could be that consumers feel trusted and valued with this invitation and in turn wish to reward the retailer. Future research should evaluate the effects of making the opportunity to vote contingent on purchasing to better understand if consumer purchasing is increased because of the opportunity to vote, or because of the opportunity to be involved without being required to compensate the firm for this opportunity.

Concluding Remarks

We introduce a novel intervention that can help firms engage customers in charitable campaigns. Allowing consumers to vote for the charitable recipient significantly increased consumer purchasing and increased consumer perceptions of their relationship with the firm. Therefore, allowing consumers to vote for the charitable recipient is a profitable endeavor that can also improve consumer-firm relationships.

Communicating Resource Scarcity

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Abstract

The development and maintenance of interpersonal relationships require both money and time—resources that are in limited supply and great demand. Consumers are regularly asked for their money and time and need to manage these resources efficiently. How does communicating scarce money or scarce time influence interpersonal relationships? Eight experiments reveal that communicating limited money (e.g., "I don't have money") increases helping behavior and perceptions of interpersonal closeness compared to communication about limited time (e.g., "I don't have time"). Consumers are perceived to have less personal control over money than time, making communication about limited money to be perceived as more trustworthy than communication about limited time. Communicators of scarce resources do not predict differences in how their money and time constraints are perceived. These findings advance our theoretical understanding of how money and time are differently attributed to consumers and provide practical insights into how consumers can better communicate their limited resources to others.

INTRODUCTION

Imagine receiving an invitation to your friend's wedding—you learn that she is planning a destination wedding this summer in Hawaii. You want to celebrate your friend, but Hawaii is far away and attending the wedding will require a great deal of time and money. There are a number of things you'd like to do this summer, and you have limited vacation time and limited money. Given these constraints, you decide that you are not going to attend the wedding. But how do you break the news to your friend? Do you say you are unable to attend without offering an explanation? Or do you share that you have limited resources— perhaps disclosing that you do not have enough vacation time to make the trip or mention that you do not have enough money. You are concerned that declining the invitation will hurt your friend's feelings and may signal that you don't value the friendship—so you want to say 'no' in a way that will have the smallest negative impact on your friendship.

While receiving a wedding invitation may not be an everyday occurrence, consumers are regularly invited to celebrations, get-togethers, and general socializing: to get coffee, to go out to dinner, to see a movie—and the like—from their friends, family members, and co-workers. In recent years there has been a surge in online invitation services—companies like Evite—that allow consumers to create, send and manage invitations to social events. Consumers use these services a lot—Evite has over 22 million registered users and over 25,000 invitations are sent each hour (Evite, 2018). Invitations for shared consumption (such as going out to dinner or to a concert) ask consumers to give their time and money—resources that are essential for the development and maintenance of interpersonal relationships. Indeed, giving time and money to others has been found to increase interpersonal connection and enhance psychological well-being (e.g., Dunn, Aknin and Norton 2008; Mogilner, Chance and Norton 2012). For example,

consumers who spend time helping others (versus spending time on themselves) report greater perceived control over their time, and consumers who spend their money helping others (versus spending money on themselves) experience greater happiness.

However, consumers also report feeling increasingly pressed for time in their day-to-day lives (Perlow 1999) and worry about having enough money to meet their basic needs (Rheault 2011). Consumers have limited resources to give—and to manage the demands of daily life they need to manage their time and money efficiently (Claessens, Van Eerde, Rutte and Roe 2007; Ksendzova, Donnelly and Howell 2017). Therefore, consumers may have to withhold giving money and time to others in order to have these resources for other activities. By withholding resources, consumers may need to turn down requests for help and invitations for shared consumption which may negatively impact interpersonal connection and well-being. Consumers have an innate drive to be a part of social relationships and suffer psychologically and physically when they lack sufficient social ties (Baumeister and Leary 1995). When consumers are socially rejected they experience more shock, negative emotion, a heightened heart rate and perform less well on cognitive tasks (Mendes, Major, McCoy and Blascovich 2008; Twenge, Catanese and Baumeister 2003), and consumers who socially reject others feel guilt (Baumeister, Wotman and Stillwell 1993). Therefore, understand how consumers can best communicate their limited resources to others is of great importance for consumer welfare.

While time and money are two central resources that are regularly exchanged between people, we know relatively little about how consumers communicate about these resources to one another. Further, it is unclear if consumers will perceive communication about limited time differently than communication about limited money, and how these differences might influence interpersonal connection. One paper does provide some suggestive evidence that consumers may

perceive communication about time and money differently—Liu and Aaker (2008) evaluated consumer response to charitable appeals and found that consumers responded more generously to requests for time than requests for money. The underlying mechanism that appears to explain this difference is the mind-set that is activated by the mention of time versus money—while money activates a value maximization mindset more closely linked to economic utility (Vohs, Mead and Goode 2006), time activates an emotional mindset toward helping, and a greater belief that giving can lead to happiness, ultimately leading to more giving (Liu and Aaker 2008).

While Liu and Aaker (2008) provide some foundational evidence that the topic of time and money differently influence consumer mindset and behavior in market-pricing relationships, it is unclear how communicating shortages of these resources will be perceived in communal-sharing relationships—among friends and peers. In market-pricing relationships, consumers regularly assess the value of their money in terms of the quality and quantity of a service they receive (Clark and Mills 1979; Fiske 1992), however such comparisons are less common and may even be perceived as inappropriate for communal-sharing relationships (Belk 1976; Clark and Mills 1979; Cropanzano and Mitchell 2005; Fiske 1992). Therefore, communicating a shortage of money in communal-sharing relationships may bring to mind a market-pricing relationship, which has the potential to make the relationship feel more transactional and less communal (Kim, Zhang and Norton, under review). On the other hand, time is a resource that is more interpersonally connecting and more personally meaningful (Bringberg and Castell 1982; Mogilner 2010; Mogilner and Aaker 2009; Mogilner, Whillans and Norton 2018 for a review), and communication about withholding this resource could be more strongly interpreted as a lack of interest in the relationship.

In this paper we evaluate how communication about limited money (e.g., "I don't have money") and communication about limited time (e.g., "I don't have time") influence interpersonal connection. Our main result is that communicating scarcity of money (vs. time) results in greater perceptions of interpersonal connection. The underlying mechanism appears to be linked to the perception that consumers have more personal control over time than money. Specifically, the belief of personal control influences how trustworthy the communication is perceived, ultimately influencing perceptions of closeness. Time is a resource that is given to everyone (i.e., 24 hours each day), therefore when a time constraint is communicated, consumers believe that a relationship partner can chose to make time if they really valued the relationship. Money on the other hand, better communicates a lack of personal responsibility over the circumstance of the scarce resource. Next, we draw on the research on communication and interpersonal relationships, focusing on the psychology of excuse-making, and also review the research on the psychology of time and money to develop our conceptual model and hypotheses.

THEORETICAL DEVELOPMENT

Interpersonal Relationships and Excuse Making in Conversation

The need to form and maintain strong and stable interpersonal relationships is a fundamental human motivation (Baumeister and Leary 1995). This drive is satisfied by frequent and affectively pleasant interactions with a few other people, that are enduring and stable in regards to each other's welfare (Clark and Mills 1979). Consumers interact with one another through written and verbal communication (Schroeder, Kardas and Epley 2017), in which each

person acts in coordination to contribute to shared understanding (Clark and Schaefer 1989) through the transfer of information about beliefs, thoughts, and emotions from one person to another (Epley and Waytz 2010). As consumers interact with each other through the reciprocal sharing of intimate information, trust and social closeness increase (Aron, Melinat, Aron, Vallone and Bator 1997; Reis 1990; Reis, Collins and Berscheid 2000; Reis and Shaver 1988; Sedikides, Campbell, Reader and Elliot 1999). In the current work, we investigate the social phenomenon of excuse making in conversation—in which a consumer provides an excuse to deny or reduce personal responsibility of an undesired or unfortunate social circumstance (Weiner, Figueroa-Muñoz and Kakihara 1991).

Excuses play an important role in social life by soothing over disruptions and embarrassing moments during social interactions. When a consumer rejects a relationship partner—such as by turning down an invitation for shared consumption (e.g., a dinner out), they usually provide an excuse that emphasizes non-personal reasons such as illness, instead of personal reasons like a lack of interest (Folkers 1982). Excuse making is defined as the process of shifting causal attributions for negative outcomes from sources that are relatively more central to the person's sense of self to sources that are relatively less central, thereby resulting in perceived benefits to the person's image and sense of control (Snyder and Higgins 1988). Therefore, an excuse allows the excuse-maker to disengage themselves from an undesirable interpersonal event or circumstance, while also protecting the excuse-receivers feelings and self-esteem. For excuses to be seen as trustworthy, they must maintain self-engagement in important tasks and maintain the positive expectancies of the excuse receiver (Weiner et al. 1991) by reducing responsibility for a shortcoming (Schlenker 1997), and demonstrating that the undesired event was unintended, accidental or the result of extenuating circumstances (Schlenker, Britt,

Pennington, Murphy and Doherty 1994; Schlenker, Weigold and Doherty 1991). Therefore, the less central a cause of an event is to a person's core self-concept, the fewer negative implications they may experience privately and publicly.

Excuses have been found to increase trust and reduce personal responsibility in negotiations, in explaining wrongdoing in court hearings and in employment contexts. For example, when a buyer discloses limitations of their financial circumstance (e.g., a constraint rationale; "I don't have the resources to offer more"), they are perceived as more trustworthy and receive more friendly counteroffers than when they focus on the shortcomings of what the seller is offering (e.g., a disparagement rationale; "What you're selling isn't worth any more", see Lee and Ames 2017). A constraint rationale provides an explanation as to why the buyer is unable to meet the seller's request, whereas a disparagement rationale communicates a buyer's negative impressions of the offer. Even for serious crimes such as robbery, embezzlement, vandalism and forgery, judgments of personal causality, responsibility and blame were lessened for those who provided an excuse to explain their crime (Critchlow 1985). In the context of work, employees who failed in their duties but provided an excuse to their supervisor for their performance were found to be less responsible, less blameworthy and received less severe punishment for their mistakes than employees who did not provide an excuse (Crant and Bateman 1993; Wood and Mitchell 1981).

While many studies have documented interpersonal benefits from excuse-making, most work has compared the effectiveness of an excuse to circumstances where no excuse was given. An important distinction to be made in the current investigation is that we compare the effectiveness of the *type* of excuse provided on interpersonal outcomes. Specifically, we focus on excuses related to not having enough money or time—two very common excuses—in fact the

most common excuses given for voluntary self-exclusions from jury selection (74.2% of all excuses; see Fukurai and Butler 1991). However, in this paper we focus on excuses exchanged in affiliative contexts (e.g., friends, peers). Consumers providing excuses in this context seek to avoid damaging the self-esteem of the rejected party (Folkers 1982; Weiner, Figueroa-Muñoz and Kakihara 1991) to prevent social rejection (Darby and Schlenker 1982; Weiner, Amirkhan, Folkes and Verette 1987), and to maintain the excuse receivers' positive expectation of themselves as a reliable relationship partner (Weiner 1985). Consequently, we evaluate if and when excuses about money more effectively shift causal attributions away from the self than do excuses about time. Perceived causality has been found to influence consumer evaluations and behavior (e.g., Fiske et al. 2002; Laczniak, DeCarlo and Ramaswami 2001). Therefore, we focus on the three central properties of perceived causality: locus, controllability and stability (Weiner, Figueroa-Muñoz and Kakihara 1991), and evaluate how time and money differ on these properties, resulting in less negative attributions for the excuse giver in terms of perceived responsibility and perceptions of closeness.

Locus of Causality

Locus of causality refers to the degree in which a cause can be considered internal or external to the actor. An excuse attempts to shift the locus outside the person—to a situational factor—to reduce personal responsibility for a broken social contract (Schlenker, Pontari and Christopher 2001). Time is more internal and more reflective of the self than money (Reed, Aquino, & Levy, 2007) and is more emotionally evocative (Carstensen, Isaacowitz and Charles 1999; Liu and Aaker 2008; Van Boven and Gilovich 2003). For example, activating the construct

of time during the evaluation of a product has been found to lead consumers to focus on their experience using the product, which in turn made consumers believe the product more reflected themselves and heightened their personal connection to the product (Mogilner and Aaker 2009). As a result of an increased connection between the product and the self, favorable evaluations of the product were more likely (Mogilner and Aaker 2009).

Furthermore, expenditures of time are seen as better reflections of the self and of personal values than expenditures of money (Gino and Mogilner 2014; Mogilner and Aaker 2009; Reed et al. 2007). Thinking about time leads people to pursue intrinsic goals—like investing in interpersonal relationships (Mogilner 2010), and behaving morally (Aquino, Freeman, Reed, Lim and Felps 2009; Gino and Mogilner 2014), whereas money seems to elicit an interest in pursuing extrinsic goals at the expense of others (Liu and Aaker 2008)—consumers become less sensitive to social rejection, behave less cooperatively and become more focused on working toward personal goals (Aquino et al. 2009; Bauer, Wilkie, Kim and Bodenhausen 2012; Vohs, Mead and Goode 2006, 2008; Zhou, Vohs and Baumeister 2009). For example, Aquino and colleagues (2009) had consumers engage in a negotiation task: half of the participants were told to negotiate for the best outcome, while the other half were given a financial incentive that was based on their performance. The financial incentive increased the accessibility of achievement-oriented facets of identity and decreased the accessibility of moral identity, leading to more lying. Further, Liu and Aaker (2008) demonstrated the 'Time Ask Effect' in which consumers exhibit greater generosity when being asked for time than money. These authors found that a time request activates an emotional mindset toward helping, and a greater belief that giving can lead to happiness (Liu and Aaker 2008).

In sum, there is ample evidence that time is more reflective of the self and elicits greater consideration of personal goals. Therefore, we predict that an excuse about limited time will be perceived as more internal to the excuse-giver than an excuse about limited money and therefore will be less successful at shifting the perceived locus of responsibility to an external (e.g., situational) factor.

Perceived Personal Control

Perceived personal control refers to the degree to which the explanation provided for a social shortcoming can be perceived as controllable by the excuse-giver. An excuse attempts to reduce an actor's fault by demonstrating that the unfortunate circumstance was not of their own volition (Schlenker, Pontari and Christopher 2001).

Some data suggests that American's might have more choice over how they spend their time than how they spend their money. A nationally representative survey documented that American's spend a great deal of time resting and engaged in leisure activities—the average American spends nearly 37% of each day asleep, and of the remaining time in the day—about 34% is spent involved in leisure activities (Bureau of Labor Statistics 2016b). However, a recent nationally representative survey documenting American's spending suggests that money may be more regulated—as spending is rather restricted to basic living expenses (Bureau of Labor Statistics 2016a)—a majority of American's income (56.8%) is spent on housing (33.0%), transportation (15.8%) and healthcare (8.0%). In general, basic needs like housing and healthcare costs appear to be rising and claiming a larger share of household expenditure (Schanzenbach, Nunn, Bauer and Mumford 2016), leading to more restrictive household budgets.

Consumers generally believe that they have personal volition over their own thoughts and behaviors. This seems to be particularly true for behaviors involving skill and willpower—as consumers generally perceive personal control over their own actions—but less so for tasks that require coordinated effort from another individual, as consumers generally have less control over the behavior and decisions of another actor (Ajzen 1985, 2002; Gist and Mitchell 1992). To the extent that receiving money relies on the coordination of other actors, such as an employer to agree to issue funds or to allocate a number of paid working hours available to an employee, consumers may perceive that they have less control over their money than they do over their time.

Research examining lay beliefs about the causes of poverty have revealed some variance in the degree to which people perceive those lacking financial resources to be personally responsible (e.g., Payne and Furnham 1985). Those with more conservative political ideology have been found to more strongly endorse the belief that individuals who have limited financial resources are personally responsible, while those with less conservative political ideology are more likely to report external social and economic factors as the cause (e.g., Zucker and Weiner 1993). Further, consumers of higher class rank are more likely to rate personal characteristics such as work ethic and ability as reasons why wealth disparities exist in the United States, while consumers of lower class rank are more likely to rate external factors like educational opportunity as important causes of economic inequality (Kraus and Keltner 2013; Kraus, Piff and Keltner 2009).

There is also some evidence that consumers who lack financial resources believe they have little control over changing their financial circumstances. For example, the uncontrollable and chaotic qualities of low-income environments have been found to interfere with a personal

sense of competency—the belief that one is an effective agent in acting on one's surroundings (Ackerman and Brown 2010; White 1959). In turn, many studies have documented a relationship between childhood poverty and learned helplessness in adolescence (Evans and Cassells 2014; Fuller-Rowell, Evans, Paul and Curtis 2015) and adulthood (Evans 2016). In these studies, participants who lived below the poverty line in childhood dedicated less energy and effort to difficult problem-solving tasks than participants who were middle class in childhood.

Consumers with more financial resources typically regard those without financial resources as somewhat incapable of changing their circumstances as well. For instance, people with less financial resources are perceived as less competent than those with adequate financial resources (Fiske, Cuddy, Glick and Xu 2002). When people lack competence, they are perceived as lacking the ability to change their circumstance, and are seen as less responsible, often engendering feelings of pity and concern from others (Fiske et al. 2002). Further, high social class respondents are more likely to think that poor consumers possess inferior genes that reduce their capacity to ascent the economic hierarchy (Kraus and Keltner 2013).

Overall, it appears that consumers generally experience more agency and leisure with their spending of time and more restrictive requirements with the spending of money. There is some evidence suggesting that consumers are not perceived as being responsible for their financial circumstance but are also not capable of changing this circumstance. Given this evidence, we hypothesize that consumers will perceive more personal control over time than money.

Stability

Stability refers to the degree to which a cause can be varying or unvarying over time. If the cause for a negative social event is perceived as unstable rather than stable, it can induce positive expectancies for the excuse-giver, by altering the belief that the outcome should not occur again (Weiner, Figueroa-Muñoz and Kakihara 1991).

The *value* of money is rather stable and universal—it is exchanged across a wide variety of consumers for various goods and services (Brinberg and Castell 1982), while the value of time is rather ambiguous (Okada and Hoch 2004), as its value is influenced by the particular persons involved in an exchange (Brinberg and Castell 1982; Foa and Foa 1980). For example, firms value their workers' time differently depending on their level of skill and expertise (e.g., Murray and Gerhart 1998), wherein each person earns a job and social standing that is equal to their talents and skills (Durkheim 1933), creating a natural division of labor in society—where money is unequally distributed (Davies, Sandstrom, Shorrocks and Wolff 2009). Consumers generally perceive money to be unequally *available* to others (Norton and Ariely 2011), but see time as more equally distributed, because the availability of time is more stable—time has an upper limit (everyone has 24 hours, whereas money has no such limit; see Shaddy and Shah 2018).

Consumers behave in ways that reflect their belief that these resources are differently stable—they think they will have less available money in the future, but more time slack (Zauberman and Lynch 2005). Consumers are less risk seeking with money than they are with time (Okada and Hoch 2004), engage in more future planning with money than time (Lynch, Netemeyer, Spiller and Zammit 2009), and more heavily consider sunk costs of money than time (Soman 2001). In turn, time is seen as a more stable indicator of preferences than money (Shaddy and Shah 2018)—the amount of time a consumer is willing to dedicate to acquiring a

product or service is perceived to more accurately represent how much a consumer values the product than the amount of money they are willing to pay.

Given these beliefs and behaviors, we hypothesize that communication about limited money will be perceived as less stable and under the actor's control than communication about limited time. Overall, we hypothesize that a time excuse (vs. a money excuse) will be perceived as more internal to the excuse-giver, more subject to volitional control and the availability of this resource should be perceived as relatively stable and under the actor's control.

Trustworthiness

Interpersonal trust is the extent to which a person is confident in, and willing to act on the basis of the words, actions and decisions of another (McAllister 1995). Perceived responsibility is a central element of trust (Butler 1991; Cook and Wall 1980). Excuse-making has the potential to undermine trust (Bies, Shapiro and Cummings 1988)—if consumers fail to meet relationship needs and provide an unsatisfactory explanation for a shortcoming then being able to predict and understand behavior is threatened (Schlenker, Pontari and Christopher 2001). Lessening the strength of personal responsibility over the negative event should maintain the positive expectancies of the excuse receiver—that the excuse giver is a reliable relationship partner (Weiner 1985), resulting in more positive relationship evaluations. Indeed, in negotiations, buyers are perceived as more trustworthy when they disclose their financial constraints compared to making claims about the value of a negotiated item (Lee and Ames 2017). We propose that because financial constraints are perceived as external to the actor, low on volitional control and relatively unstable, that communicating such constraints should increase perceptions of trust and

relationship outcomes (Weiner, Figueroa-Muñoz and Kakihara 1991) compared to communicating a time constraint that is seen as more central to the excuse-maker and more controllable.

Trust is essential for the success of close relationships (Rempel, Holmes and Zanna 1985). Trust not only positively influences consumers beliefs and impressions of their relationship partners (Lawler and Yoon 1996) but is also used as the basis for action. When people are trusting they often behave in ways that relinquish personal power over outcomes that are valuable to the self (Messick and Kramer 2001). When consumers trust their relationship partners they disclose more personal information about themselves (Wheeless and Grotz 1977), and express greater prosocial orientation toward relationship partners (Reis et al. 2010) and express a greater willingness to help (Willner and Smith 2007). Therefore, we explore how the communication of limited money or time ultimately influence perceptions of trustworthiness and impressions of interpersonal connection and helping behavior. We hypothesize that because communication about limited money will be perceived as less controllable, stable and central to the actor, that it will lead to greater perceptions of trust and interpersonal closeness.

OVERVIEW OF EXPERIMENTS

We report results from eight experiments that assess the interpersonal benefits of communicating a money excuse ("I don't have money") compared to communicating a time excuse ("I don't have time"). Experiment 1 utilizes a dataset of over 2,000 direct-message tweets and demonstrates that tweets containing money scarcity content are significantly more likely to be 'liked' than tweets containing time scarcity content.

Experiment 2 evaluates perceptions of interpersonal closeness to relationship partners before and after scarcity communication (e.g., an excuse) and demonstrates that consumers feel equally close to relationship partners before the scarce resource is communicated, but those who receive a time excuse perceive significantly less closeness to their relationship partner compared to those who receive a money excuse.

Experiments 3a-3c explore our proposed mechanism: consumers perceive greater interpersonal closeness when learning of scarce money (vs. time), because it is perceived that consumers have greater personal control over time than money, which leads to greater perceptions of trust. These effects are robust whether scarcity communications are among friends or co-workers, or whether the communications are for shared consumption or non-shared consumption.

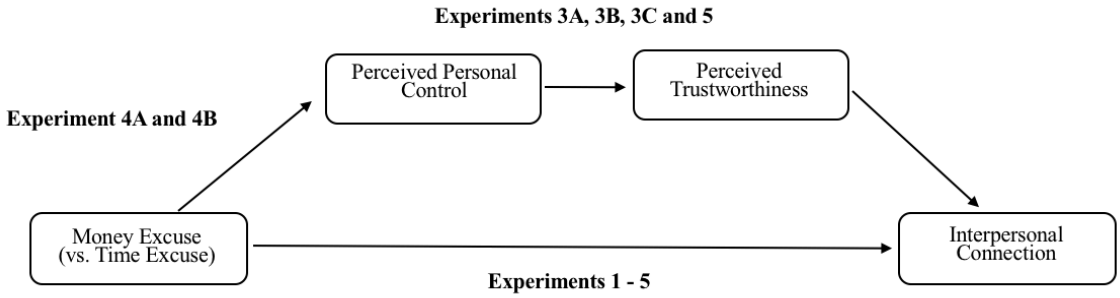
Experiments 4a and 4b explore the moderating role of personal control and finds that when time constraints are presented as outside one's personal control, consumers feel similarly close to a target expressing either money or time scarcity. The effect is moderated by internal locus of control, an individual difference variable that measures perceptions of responsibility over life events.

Finally, Experiment 5 tests the effectiveness of sharing financial and time scarcity as an excuse for not giving to charity and uses a behavioral measure of interpersonal liking and finds that respondents allocate significantly more enjoyable tasks to a communicator of limited money (vs. time).

Taken together, our results suggest that consumers more favorably respond to relationship partners who communicate money scarcity than time scarcity. Collectively, these experiments advance our understanding of the behavioral consequences of communicating

limited resources, demonstrating the underlying psychology of the differences in perceived control over money and time in predicting perceptions of trustworthiness and interpersonal outcomes (see Figure 3.1 for our theoretical model and overview of studies).

Figure 3.1
Theoretical Model and Overview of Experiments



EXPERIMENT 1: COMMUNICATING RESOURCE SCARCITY ON TWITTER

As an initial investigation evaluating communication of resource scarcity we turn to Twitter, an online social networking website on which users post messages known as 'tweets'. Registered users can post tweets and send direct message tweets to other registered users. Twitter offers users the ability to 'like' content generated by other users and such 'liking' has been found to be a signal of endorsement and fondness for the content of the post and the author of the post (John, Emrich, Gupta and Norton 2017), therefore, we evaluate the tendency to 'like' a tweet as a function of a tweet containing content that communicates money or time scarcity. We expected that tweets communicating money scarcity would be more likely to be 'liked' than tweets communicating time scarcity.

Methods

Procedure. We constructed our data set of tweets communicating resource scarcity using the 'twitteR' package (Gentry 2016). We scraped direct message tweets (tweets that begin with "@[username]", which directs the tweet to a specific twitter user as opposed to a general tweet directed at the broader twitter community), written between January 1, and January 8, 2018 that contained the words, "don't have money", or "don't have time." twitteR scrapes 1% of the total tweets that meet the search criteria, and resulted in a data set of 2,649 tweets.

We asked two independent coders—blind to our hypotheses—to evaluate the content of each tweet by identifying whether the tweet communicated scarcity of a personal resource and whether the resource discussed was money or time. Interrater reliability was high (Cohen's $\kappa >$ .90); coders agreed 95.6% of the time about whether the tweet communicated personal resource scarcity (2,533 of 2,649) and 98.8% of the time about the resource discussed (2,618 of 2,649) and resolved disagreements through discussion. Tweets that did not discuss *personal* resource scarcity (e.g., shared scarcity, $N = 102$; *"@[<user name>] I wanna fly to Dublin to see you twice but we don't have money.*"), and tweets that discussed a scarcity of *both* money and time ($N = 237$; "*@[<user name>] I just don't have the time or money, can only work part time as it is*") were excluded, leaving a final dataset of 2,310 tweets—1,218 tweets communicated time scarcity "*@[<user name>] I don't have time to do everything, but I have seen Pirates Cave. I grew up there*", while 1,092 communicated money scarcity *"@[<user name>] Don't worry mate, I don't have the money to shop at Waitrose anyway*". In addition to the content of the tweet, we scraped information about the author of the tweet: their user name, number of

followers and number of followees, as well as whether the tweet was 'liked' by the user who was tagged.

Results

A χ^2 test comparing scarcity content: time vs. money, was significant: users were more likely to 'like' a tweet that communicated money scarcity than a tweet that communicated time scarcity (48.4% of users liked a tweet in the money scarcity condition, and 24.2% of users liked a tweet in the time scarcity condition), χ^2 (1, N = 2,310) = 146.20, $p < .001$.

Authors of tweets communicating money scarcity had fewer followers than authors of tweets communicating time scarcity (M_{money} = 1,236.29, SD = 4,503.23; M_{time} = 1,931.04, SD = 8,149.97, t(2,301) = 2.49, p = .01, d = .10), and also followed significantly fewer users (M_{money} = 659.34, SD = 1,318.55; M_{time} = 823.59, SD = 1,316.74, t(2,301) = 2.99, p = .003, d = .12). Therefore, propensity to 'like' a tweet was also examined in a logistic regression with three independent variables: scarcity content (time vs. money), number of followers, and number of followees. There was a significant main effect of scarcity content, odds ratio = 2.95, 95% CI = [2.47, 3.52], $p < .001$, but no significant effect of number of followers or followees ($ps > .24$).

Discussion

The results from Twitter data provide initial evidence that communication regarding money and time scarcity are common. We also found initial evidence that the content of a scarcity message is evaluated differently—communication about money scarcity was more likely

to be 'liked' by other users than communication about time scarcity. While time scarcity content was written by users who followed more users and were followed by more users, the number of followers did not account for the differences in liking. Importantly, while the results of this study are correlational and we cannot disentangle the causal links between scarcity content and interpersonal outcomes, we seek to test our hypotheses in more controlled experiments in our main set of studies.

EXPERIMENT 2: RECALLED EXCUSES AND PERCEPTIONS OF INTERPERSONAL CLOSENESS

Consumers are regularly asked for their money and time from other people, but often have to withhold giving these resources to others in order to have enough for other activities. One common challenge consumers face is how to communicate their scarce resources when turning down a request for help or an invitation for shared consumption. In this experiment we investigated people's recalled experiences of receiving a money or time scarcity communication [e.g., an excuse] and assessed their impressions of how close they felt to their relationship partner before and after receiving this communication.

Methods

Participants and Design. Two hundred seven adults (52.7% female; M_{age} = 30.30, *SD* = 11.01; 40.5% Caucasian) participated in a series of unrelated lab studies at a university in the

northeastern United States in exchange for $20. We randomly assigned participants to a 2 (excuse type: money or time) condition, between-subjects design.

Procedure. Participants were asked to reflect on a recent experience and write a few sentences about it in an open response window via Qualtrics. In the Money Excuse condition, the instructions read as follows (word changes in the Time Excuse condition are shown in brackets):

In this task, we are interested in your impressions of excuses others give when communicating to you why they are unable to do something. Specifically, we are interested in your impressions of money [time] excuses: when people tell you they can't do something because they don't have money [time]. To the best of your ability, please recall a situation when someone told you they couldn't do something because they didn't have money [time]. Please write a few sentences about the circumstance and how you felt about the situation.

After writing about this experience, participants completed measures assessing their impressions of this communication and their relationship partner.

Perceived Closeness. Participants indicated the extent to which they felt close to their relationship partner prior to hearing the excuse. Responses were recorded on a 7-point scale (ranging from 1, *not at all close*, to 7, *very close*). Participants also indicated the extent to which they felt close to their relationship partner after hearing the excuse. Responses were also recorded on the same 7-point scale.

Perceived Validity of Excuse. Next, participants responded to the question, *"I thought that this person's excuse was valid"* on a 7-point scale (ranging from 1, *strongly disagree* to 7, *strongly agree*).

Perceived Trustworthiness. To measure perceived trustworthiness, participants indicated the extent to which they agreed that (a) they trusted the excuse-maker, and (b) the excuse-maker

seemed as though they were being honest with them on a 7-point scale (ranging from 1, *strongly disagree* to 7, *strongly agree*). We created a composite measure averaging these two items (r = .79, $p < .001$).

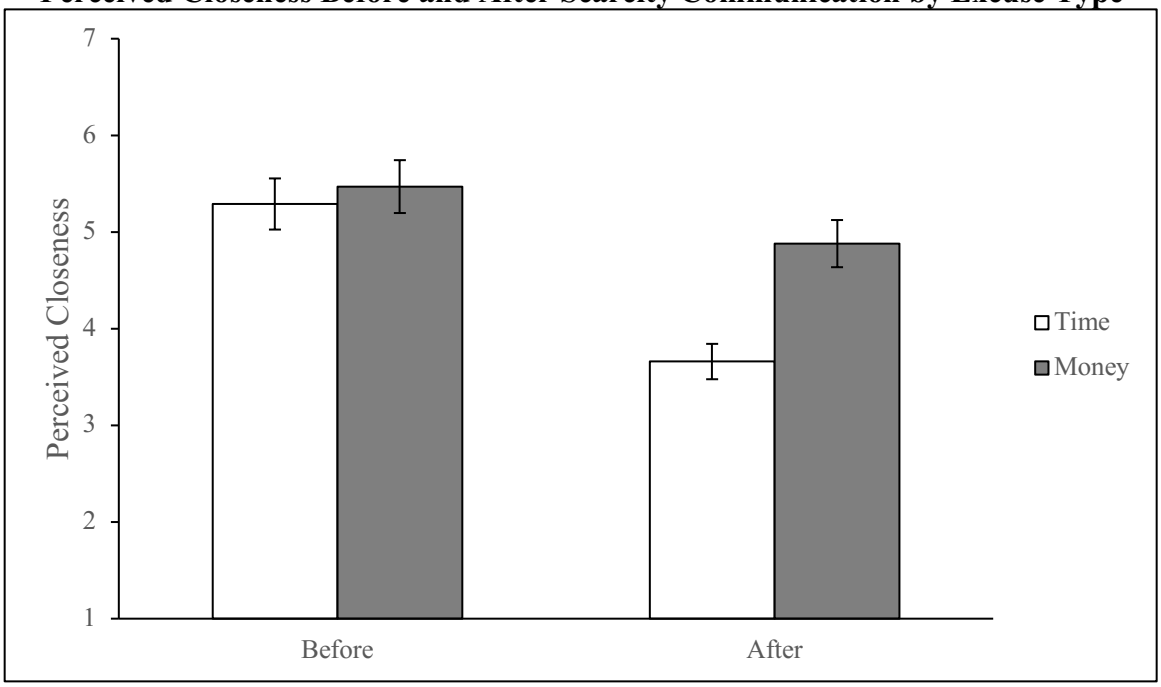
Perceived Social Status. Participants also responded to the question, "*To what extent do you think that this person probably has lower or higher status than you?"* on a 1, *lower status* to 9, *higher status* scale. We measured perceived status as previous research has found consumers to have limited time available for leisure to be perceived as high status (Bellezza, Paharia and Keinan 2016).

Results

Perceived Closeness. A repeated-measures ANOVA using perceived closeness (before vs. after) as a within-subjects factor and excuse type (money vs. time) as a between-subjects factor revealed a significant main effect for perceived closeness, $F(1,205) = 125.53$, $p < .001$, which was qualified by a significant interaction, $F(1,205) = 27.65$, $p < .001$ (see Figure 3.2). Follow-up tests indicated that prior to receiving an excuse, participants felt equally close to relationship partners who communicated money or time scarcity ($M_{money} = 5.47$, $SD = 1.37$; $M_{time} = 5.29$, $SD = 1.44$, $t(205) = .95$, $p = .35$, $d = .13$). However, after the excuse was communicated, participants felt significantly closer to relationship partners who communicated money scarcity than those who communicated time scarcity ($M_{money} = 4.88$, $SD = 1.74$; $M_{time} = 3.66$, $SD = 1.68$, $t(205) = 5.16$, $p < .001$, $d = .68$). Overall, participants felt less close to relationship partners after an excuse was communicated. However, the detrimental effect of time

scarcity communication on perceived closeness (t[104] = 10.12, $p < .001$, $d = 1.98$) was nearly double that of money scarcity communication (t[101] = 5.18, $p < .001$, $d = 1.03$).

Figure 3.2
Perceived Closeness Before and After Scarcity Communication by Excuse Type



Perceived Validity of Excuse. Participants thought a money excuse was significantly more valid than a time excuse (M_{money} = 5.09, SD = 2.03; M_{time} = 4.01, SD = 1.98, t(205) = 3.87, $p < .001$, $d = .54$).

Perceived Trustworthiness. Participants also perceived greater trustworthiness from a money excuse than a time excuse (M_{money} = 5.47, SD = 1.66; M_{time} = 4.42, SD = 1.83, t(205) = 4.33, $p < .001$, $d = .60$).

Perceived Social Status. There were no significant differences in perceived social status (M_{money} = 4.98, SD = 1.56; M_{time} = 5.29, SD = 1.56, t(203) = 1.41, $p = .16$, $d = .20$).

Mediation. Next, we examined whether increased closeness observed in the post-money excuse condition (compared to the post-time excuse condition) was mediated by perceptions that the excuse was valid, increasing perceived trustworthiness. To test for mediation, we followed the instructions outlined in Hayes and Preacher (2014) using the PROCESS Macro and tested our potential mediators sequentially with model 6. Perceptions of validity and trustworthiness partially mediate the relationship between communicating financial scarcity and increased closeness (95% CI, .21 to .77). However, validity (95% CI, -.09, .34) and trustworthiness (95% CI, -.01, .38) were not significant mediators alone, as demonstrated by the confidence interval crossing zero.

Coding Open-Ended Data. To better understand why participants perceived a communication regarding money scarcity to be more valid than a communication regarding time scarcity we asked a sample ($N = 253$; demographic data was not collected) from Amazon's Mechanical Turk to code the open responses data. Each coder read and evaluated 5 statements, resulting in each statement being coded an average of 6.11 times. Participants were asked to rate the extent the excuse provided in the scenario was (a) honest, (b) believable, (c) trustworthy, (d) out of the person's personal control, (e) a personal choice, (f) revealing something intimate about the person, and (g) reflected how much the person valued their relationship with the other person. All responses were recorded on a 7-point scale (ranging from 1, *strongly disagree* to 7, *strongly agree*).

Consistent with the findings from the main study, coders found money scarcity communication to be more trustworthy than time scarcity communication. Money excuses were rated as more honest ($M_{money} = 5.11$, $SD = 1.08$; $M_{time} = 4.48$, $SD = 1.10$, $t(205) = 4.20$, $p < .001$, $d = .58$), trustworthy ($M_{money} = 5.04$, $SD = 1.11$; $M_{time} = 4.31$, $SD = 1.15$, $t(205) = 4.62$, $p < .001$,

d = .64), and believable (M_{money} = 5.23, SD = 1.05; M_{time} = 4.60, SD = 1.13, $t(205) = 4.12$, $p <$ .001, d = .57). Coders also perceived money excuses to be more outside of one's personal control (M_{money} = 4.26, SD = 1.07; M_{time} = 3.76, SD = 1.07, $t(205) = 3.32$, p = .001, d = .46) and less of a personal choice (M_{money} = 4.32, SD = .98; M_{time} = 4.98, SD = .98, $t(205) = 5.11$, $p < .001$, d = .71) than time excuses. Further, coders rated money excuses to be less of a reflection of how much the person valued the relationship with the other person (M_{money} = 4.07, SD = 1.06; M_{time} = 4.65, SD = .91, $t(205) = 4.18$, $p < .001$, d = .58), than time excuses, but money and time excuses were seen as equally revealing (M_{money} = 4.06, SD = 1.02; M_{time} = 3.96, SD = .90, $t(205) = .72$, p = .47, d = .10).

Discussion

The results from this experiment provide additional evidence that communication about money and time scarcity are common, as every participant was able to recall a recent experience in which they received a money or a time excuse. Participants felt equally close to relationship partners prior to receiving a money or time excuse, suggesting that communications about money and time scarcity are not reserved for relationships that are differentially intimate. Yet, participants felt significantly closer to their relationship partners after receiving communication about money scarcity compared to those who received communication about time scarcity. We find evidence that this difference is partially explained by the perception that money excuses are more valid, therefore increasing trust in the communication partner. Independent coding of the open response data also confirmed differences in perceived trustworthiness and provided some initial insight into why money excuses might be perceived as more valid: they were rated as

significantly more outside of one's personal control, less of a choice, and more of a reflection of how much the excuse provider valued the relationship with the excuse receiver.

A primary goal of an excuse is to shift causal attributions for a negative event away from the self (Snyder and Higgins 1988), and toward other, unforeseeable and external factors (Schlenker 1997; Schlenker et al. 1994; Schlenker et al. 1991). Previous research has found that time is a resource that is more central to the self (Liu and Aaker 2008), and this experiment found direct evidence that money excuses were perceived as less of a personal choice and more outside of one's personal control. Therefore, in our next experiment we evaluate if a money excuse is seen as more trustworthy in part because money may be perceived as a less personally controllable resource. In addition, our experiment found evidence that money excuses were less reflective of the excuse givers commitment to the relationship. Therefore, in our next experiment, we evaluate whether the detrimental effect of time excuses on perceived closeness are specific to a response to an invitation for shared consumption with the excuse provider, or if this result occurs even when a response is given to an invitation for consumption that is not shared.

EXPERIMENT 3A: SCARCITY COMMUNICATION & SHARED CONSUMPTION

The primary goal of this experiment is to better understand why money excuses are perceived as more valid than time excuses. We hypothesize that time might be perceived as a more personally controllable resource—that consumers are perceived to have more agency over how to allocate and use their time, and therefore, communicating a time constraint might be seen as less trustworthy. In this experiment we asked all participants to evaluate a scenario in which

they invited a friend to a social event and varied whether their friend declined by giving a time or money excuse. Further, we crossed excuse type by the nature of the invitation (shared or not shared), to better understand if perceptions of controllability and trustworthiness are perceived differently when a request is made for a resource for shared socializing versus non-shared.

Methods

Participants and Design. Four hundred adults (55.3% female; M_{age} = 38.77, *SD* = 11.82; 85.5% Caucasian) were recruited through Amazon's Mechanical Turk and were paid a nominal fee for participating. We randomly assigned participants to a 2 (excuse type: money vs. time) x 2 (invitation type: shared experience or not shared experience) between subjects design.

Procedure. Participants were asked to imagine a scenario in which they were inviting a friend to a concert. In the shared experience condition, the instructions read as follows (word changes in the not shared experience condition are shown in brackets): "*Your friend, Jeremy, is in a band. The band is playing a show this weekend. Jeremy tells you that tickets go on sale later today and hopes that you can make it. You are [not] able to attend the concert. You ask your mutual friend Rebecca if she has any interest in attending the concert with[out] you."*

In the money excuse condition, participants then read (word changes in the time excuse condition are shown in brackets): *"When you mention this to Rebecca she says, 'That sounds like fun, but unfortunately I can't go. I don't have money [time]."*

Next, participants completed measures assessing their impressions of this communication and Rebecca (their relationship partner).

Perceived Closeness. Participants indicated the extent to which they felt closer to Rebecca after hearing her response on a 7-point scale (ranging from 1, *strongly disagree*, to 7, *strongly agree*).

Perceived Trustworthiness. Participants indicated the extent to which they felt Rebecca was trustworthy, cooperative, sincere and principled (α= .93; Pontari, Schlenker and Christopher 2002), on a 7-point scale (ranging from 1, *not at all* to 7, *very*).

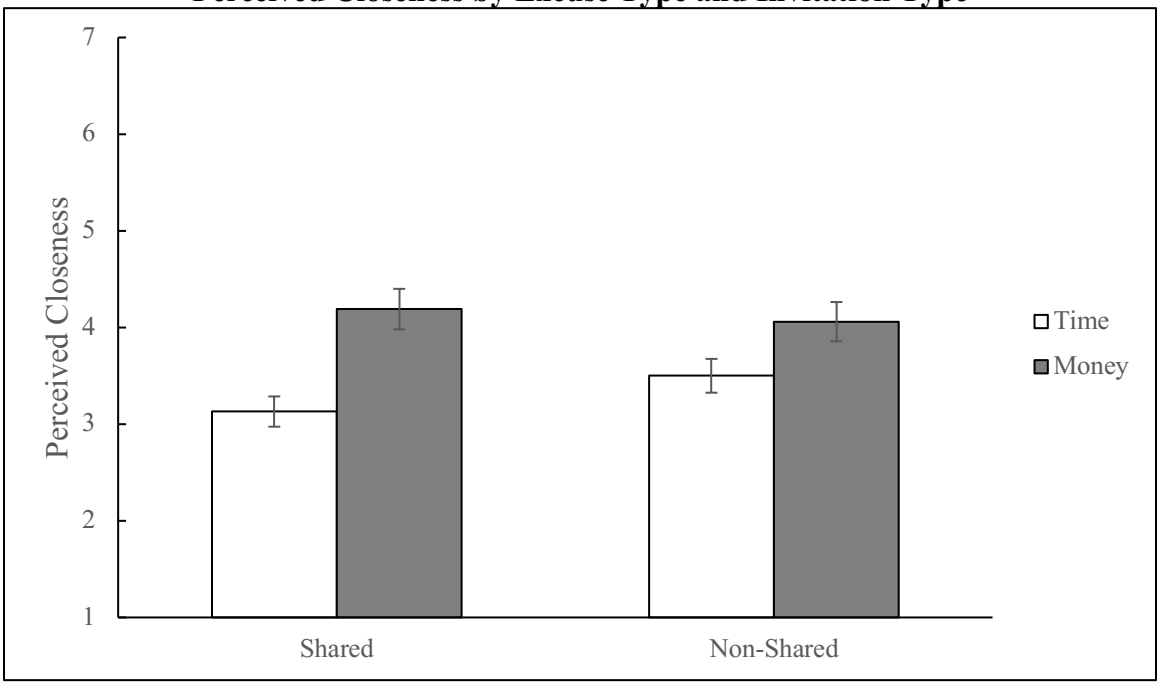
Perceived Controllability. Next, participants responded to two questions measuring the perceived controllability of the scarce resource: *"In general, not having money [time] is a choice for Rebecca"* and "*In general, it is possible for Rebecca to find the money [time] to do the things in life that she really wants to do."* Both questions were measured on a 7-point scale (ranging from 1, *strongly disagree* to 7, *strongly agree*) and adapted from previous measures of perceived behavioral control (e.g., Conner, Sheeran, Norman and Armitage 2000; Sheeran and Orbell 1999). We created a composite measure averaging these two items ($r = .59$, $p < .001$).

Results

Perceived Closeness. We conducted a 2x2 ANOVA to assess the impact of excuse type (money vs. time) and invitation type (shared vs. not shared) on perceived closeness. There was a main effect of excuse type, $F(1,396) = 38.52$, $p < .001$, but no main effect for invitation type, $F(1,396) = .90$, $p = .34$. However, there was a significant interaction between excuse type and invitation type, $F(1,396) = 3.73$, $p = .05$. Participants felt closer to Rebecca when receiving a money excuse than when receiving a time excuse ($M_{money} = 4.12$, $SD = 1.34$; $M_{time} = 3.30$, $SD = 1.27$; $t(398) = 6.23$, $p < .001$, $d = .62$). While participants felt equally close to Rebecca when

receiving a money excuse for a shared or non-shared experience (M_{money_shared} = 4.19, SD = 1.40; $M_{money\_non\text{-}shared}$ = 4.06, SD = 1.29; t(200) = .68, p = .50, d = .09), a time excuse was especially detrimental to perceived closeness when given in response to a shared experience compared to a non-shared experience (M_{time_shared} = 3.13, SD = 1.20; $M_{time\_non\text{-}shared}$ = 3.50, SD = 1.31; t(196) = 2.10, p = .04, d = .30; Figure 3.3).

Figure 3.3
Perceived Closeness by Excuse Type and Invitation Type



Perceived Controllability. In regards to perceived controllability, there was a main effect of excuse type (F(1,396) = 103.65, p < .001), but there was no main effect for invitation type (F(1,396) = 1.03, p = .31), or a significant interaction between excuse type and invitation type (F(1,396) = .30, p = .59). As expected, participants associated greater controllability with time relative to money (M_{time} = 4.59, SD = 1.33; M_{money} = 3.17, SD = 1.47; t(398) = 10.16, p < .001, d = 1.02).

Perceived Trustworthiness. For perceived trustworthiness, there was a main effect of excuse type ($F(1,396) = 39.34$, $p < .001$), a main effect for invitation type ($F(1,396) = 4.90$, $p = .03$), and a significant interaction between excuse type and invitation type ($F(1,396) = 4.20$, $p = .04$). Participants perceived Rebecca as less trustworthy when receiving a time excuse than when receiving a money excuse ($M_{time} = 4.54$, $SD = 1.20$; $M_{money} = 5.27$, $SD = 1.08$; $t(398) = 6.34$, $p < .001$, $d = .63$), and also perceived less trustworthiness when receiving an excuse for a shared event compared to a non-shared event ($M_{shared} = 4.77$, $SD = 1.23$; $M_{non\text{-}shared} = 5.05$, $SD = 1.15$; $t(398) = 2.36$, $p = .02$, $d = .24$). While participants felt Rebecca was equally trustworthy when receiving a money excuse for a shared or non-shared experience ($M_{money\_shared} = 5.26$, $SD = 1.12$; $M_{money\_non\text{-}shared} = 5.28$, $SD = 1.04$; $t(200) = .12$, $p = .90$, $d = .02$), a time excuse was especially detrimental to perceived trustworthiness when given in response to a shared experience compared to a non-shared experience ($M_{time\_shared} = 4.31$, $SD = 1.15$; $M_{time\_non\text{-}shared} = 4.80$, $SD = 1.21$; $t(196) = 2.88$, $p = .004$, $d = .41$).

Mediation. We next examined whether the increased closeness observed in the money excuse condition was mediated by perceptions that the scarcity of the resource was not controllable, and in turn, increased perceived trustworthiness. To test for mediation, we followed the instructions outlined in Hayes and Preacher (2014) using the PROCESS Macro and tested our potential mediators sequentially with model 6. Perceptions of controllability and trustworthiness partially mediated the relationship between a money excuse and increased closeness (95% CI, .04 to .19). This effect held for shared consumption (95% CI, .04, .28), and non-shared consumption (95% CI, .02, .19).

Discussion

This experiment provides further evidence that consumers perceive greater closeness to their relationship partner after receiving a money excuse. We found evidence that money, relative to time, is perceived to be less controllable, and therefore an excuse about not having enough money (vs. time) was perceived to be more trustworthy, ultimately resulting in increased closeness. Further, we found our effect to be moderated by invitation type—communication about money scarcity resulted in similar levels of closeness and trustworthiness for shared and non-shared consumption, while communication about time scarcity was especially detrimental to these variables in response to an invitation for shared consumption. It could be that because time is a more personal and meaningful resource and inherently tied to socializing (Carstensen et al. 1999; Mogilner 2010), that it becomes more interpersonally threatening when used as a rationale for being unavailable for shared consumption. This notion is also supported by our finding in experiment 1 that time scarcity communication more negatively reflects how much a person values their relationship with the other person. Given these findings, we wanted to test how a time and money excuse compared to a no excuse control condition to better understand if communication about money scarcity had a positive interpersonal impact or if time had a negative interpersonal impact compared to simply saying no to a shared invitation. In addition, while we found our effect to be moderated by shared consumption. The degree to which a relationship is perceived to be communal or exchange-based has been found to influence consumer impressions of the appropriateness of how resources are exchanged among relationship partners (Kim, Zhang and Norton, under review). Therefore, in our next experiment we test if the type of relationship moderates our effect by evaluating friends and co-workers.

EXPERIMENT 3B: SCARCITY COMMUNICATION AMONG FRIENDS & COWORKERS

Experiment 3A found that a money excuse was perceived to be more trustworthy than a time excuse for both shared and non-shared consumption. In the current investigation we evaluate if our effect is moderated by the type of relationship: friends and coworkers. In turn, we also introduce a no-resource excuse control condition.

Methods

Participants and Design. Six hundred twelve adults (52.6% female; M_{age} = 38.32, *SD* = 23.79; 76.0% Caucasian) were recruited through Amazon's Mechanical Turk and were paid a nominal fee for participating. We randomly assigned participants to a 3 (excuse type: money, time or none) x 2 (relationship type: friend or co-worker) between subjects design.

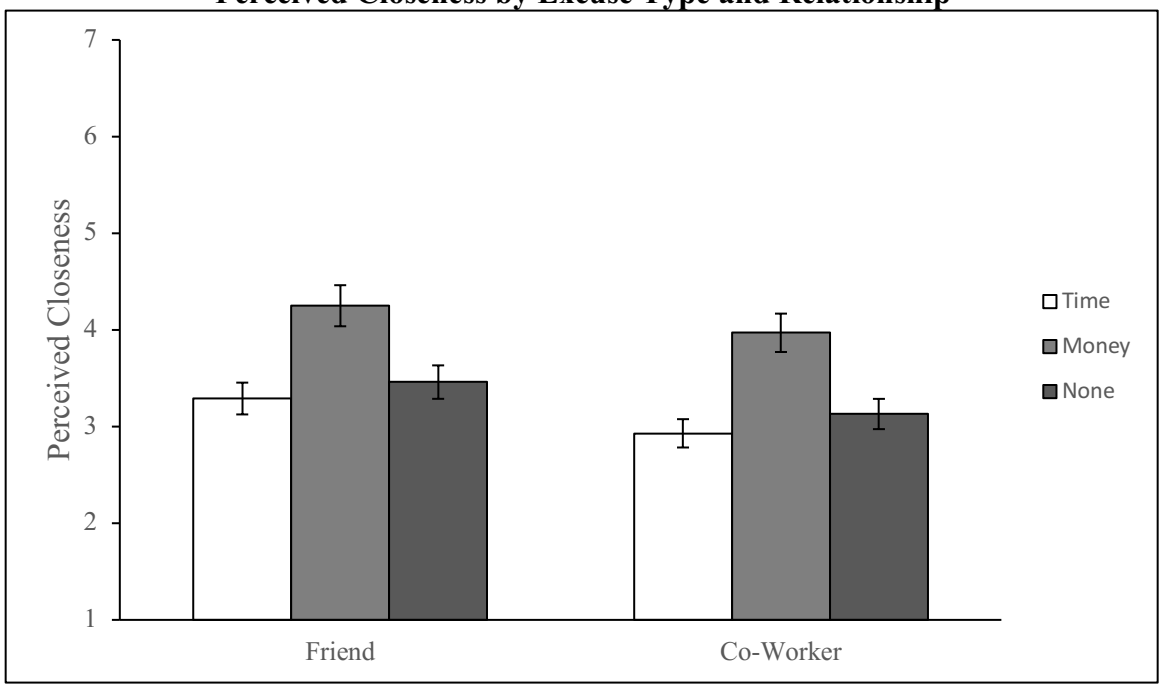
Procedure. Participants were asked to imagine a scenario in which they were inviting a friend to a social engagement. All participants read: "*You are planning a fun night out with some people. You propose to go out for some drinks, a nice meal, and then go to a live comedy show this coming Saturday."* In the no-scarcity communication friend condition, participants then read (word changes in the co-worker condition are shown in brackets): *"When you mention this plan to one of your friends [co-workers] they say, 'That sounds like fun, but unfortunately I can't go.* For participants assigned to the time and money scarcity communication conditions, an additional sentence directly followed: *I don't have time [money]."*

Next, participants completed the same measures from experiment 3A assessing their impressions of this communication and their relationship partner. They reported the perceived closeness with the relationship partner, perceived controllability ($r = .68$, $p < .001$), and perceived trustworthiness ($\alpha = .89$; Pontari, Schlenker and Christopher 2002). When measuring perceived controllability in our no scarcity communication (control) condition we asked: *"Not attending is a choice for my friend [co-worker]"* and *"It is possible for my friend [co-worker] to do the things in life that they really want to do."* Both questions were measured on the same 7-point scale (ranging from 1, *strongly disagree* to 7, *strongly agree*).

Results

Perceived Closeness. We conducted a 3x2 ANOVA to assess the impact of excuse type (money, time or none) and relationship type (friend vs. co-worker) on perceived closeness. There was a main effect of excuse type, $F(2,606) = 34.60$, $p < .001$, and a significant main effect for relationship type, $F(1,606) = 9.68$, $p = .002$. However, there was no significant interaction between excuse type and relationship type, $F(2,606) = .05$, $p = .95$. As in our previous experiments, participants felt closer to their friend when receiving a money excuse than when receiving a time excuse ($M_{money} = 4.11$, $SD = 1.38$; $M_{time} = 3.09$, $SD = 1.27$; $t(407) = 7.74$, $p < .001$, $d = .77$), or no excuse ($M_{control} = 3.31$, $SD = 1.25$; $t(407) = 6.14$, $p < .001$, $d = .61$). Participants felt marginally closer to their friend when receiving no excuse than a time excuse ($t(404) = 1.73$, $p = .085$, $d = .17$). Further, participants perceived greater closeness from a friend than a co-worker ($M_{friend} = 3.68$, $SD = 1.35$; $M_{co\text{-}worker} = 3.34$, $SD = 1.38$; $t(610) = 3.02$, $p = .003$, $d = .24$; Figure 3.4).

Figure 3.4
Perceived Closeness by Excuse Type and Relationship



Perceived Controllability. In regards to perceived controllability, there was a main effect of excuse type ($F(2,606) = 120.66$, $p < .001$), but no main effect for relationship type ($F(1,606) = .01$, $p = .91$), and no significant interaction between excuse type and relationship type ($F(2,606) = .90$, $p = .41$). As in experiment 3A, participants associated greater controllability with time relative to money ($M_{time} = 4.58$, $SD = 1.34$; $M_{money} = 3.49$, $SD = 1.34$; $t(407) = 8.18$, $p < .001$, $d = .81$). However, participants associated greater controllability in our control condition compared to a money excuse ($M_{control} = 5.56$, $SD = 1.35$; $t(407) = 15.53$, $p < .001$, $d = 1.54$), and a time excuse ($t(404) = 7.35$, $p < .001$, $d = .73$).

Perceived Trustworthiness. For perceived trustworthiness, there was a main effect of excuse type, ($F(2,606) = 12.31$, $p < .001$), a main effect for relationship type ($F(1,606) = 11.10$, $p = .001$), and a marginally significant interaction between excuse type and relationship type ($F(1,606) = 2.42$, $p = .09$). Participants perceived less trustworthiness when receiving a time

excuse than a money excuse (M_{time} = 4.49, SD = 1.30; M_{money} = 5.07, SD = 1.16; $t(407) = 4.83$, $p < .001$, $d = .48$), but no difference between a time excuse and no excuse ($M_{control}$ = 4.65, SD = 1.25; $t(404) = 1.30$, $p = .20$, $d = .13$). Participants also perceived more trustworthiness from a friend than from a co-worker (M_{friend} = 4.91, SD = 1.21; $M_{co\text{-}worker}$ = 4.57, SD = 1.30; $t(610) = 3.31$, $p = .001$, $d = .27$).

Mediation. By and large, the no excuse control condition resulted in somewhat similar perceptions of closeness and trustworthiness as the time excuse condition. Therefore, we evaluate whether the increased closeness observed in the money excuse condition was mediated by perceptions of personal controllability and trustworthiness compared to our time excuse condition as we did in Experiment 3A. To test for mediation, we followed the instructions outlined in Hayes and Preacher (2014) using the PROCESS Macro and tested our potential mediators sequentially with model 6. Perceptions of controllability and trustworthiness partially mediated the relationship between a money (vs. time) excuse and increased closeness among friends (95% CI, .04 to .24) and co-workers (95% CI, .06 to .47).

Discussion

Experiment 3B provides further evidence that consumers perceive greater closeness to a relationship partner after receiving a money excuse in response to an invitation for shared consumption. We replicated our finding that communication regarding scarce money, relative to time, is perceived to be less controllable and more trustworthy, ultimately resulting in increased closeness. Further, we also evaluated how communicating scarce money and time compares to not communicating scarce resources and just declining an invitation without an explanation.

Relative to no information, a money excuse increased perceptions of closeness, while a time excuse marginally decreased perception of closeness. These effects were consistent in circumstances involving friends and co-workers.

Given these findings, we also wanted to test if consumers differently interpreted the length in which the resource was not available. If consumers are perceived to have more personal control over time, saying one does "not have time" may be interpreted as more of a permanent disposition than when saying one does "not have money." Therefore, we wanted to test if interpersonal closeness and trust would be increased when explaining that one did not have time for the next week (or the next six months).

EXPERIMENT 3C: INCLUDING INFORMATION ABOUT THE LENGTH OF SCARCITY

The primary goal of this experiment was to better understand if perceptions of controllability influence the interpretation of the statement, "I don't have time"—as more permanent, stable, and long-lasting, whereas "I don't have money" may be perceived as less stable and temporary. As in our previous experiment, we ask all participants to evaluate a social circumstance in which they invite a friend to a social event and vary whether their friend declines by giving a time or money excuse. Further, we cross excuse type by the length of time the resource is mentioned to be unavailable, to better understand if perceptions of controllability and trustworthiness are experienced differently when such information is included in a response to shared consumption.

Methods

Participants and Design. Six hundred thirty-six adults (75.9% female; M_{age} = 45.16, *SD* = 16.10; 83.0% Caucasian) were recruited through a Qualtrics panel and were paid a nominal fee for participating. We randomly assigned participants to a 2 (excuse type: money vs. time) x 3 (information about length of scarcity: no information, one week, six months) between subjects design.

Procedure. Participants were asked to imagine a scenario in which they were inviting a friend to a social engagement. All participants read: "*You are planning a fun night out with some people. You propose to go out for some drinks, a nice meal, and then go to a live comedy show this coming Saturday."* In the money excuse condition, participants then read (word changes in the time excuse condition are shown in brackets): *"When you mention this plan to one of your friends they say, 'That sounds like fun, but unfortunately I can't go. I don't have money [time]."* We also manipulated the time period in which it was shared that *money [time]* was not available. In our control conditions, no additional information was provided (as in experiments 3A and 3B). In the one-week condition, the friend responded by saying they would not have *money [time] until next week.* In the six months condition, the friend responded by saying they would not have *money [time] until June.*

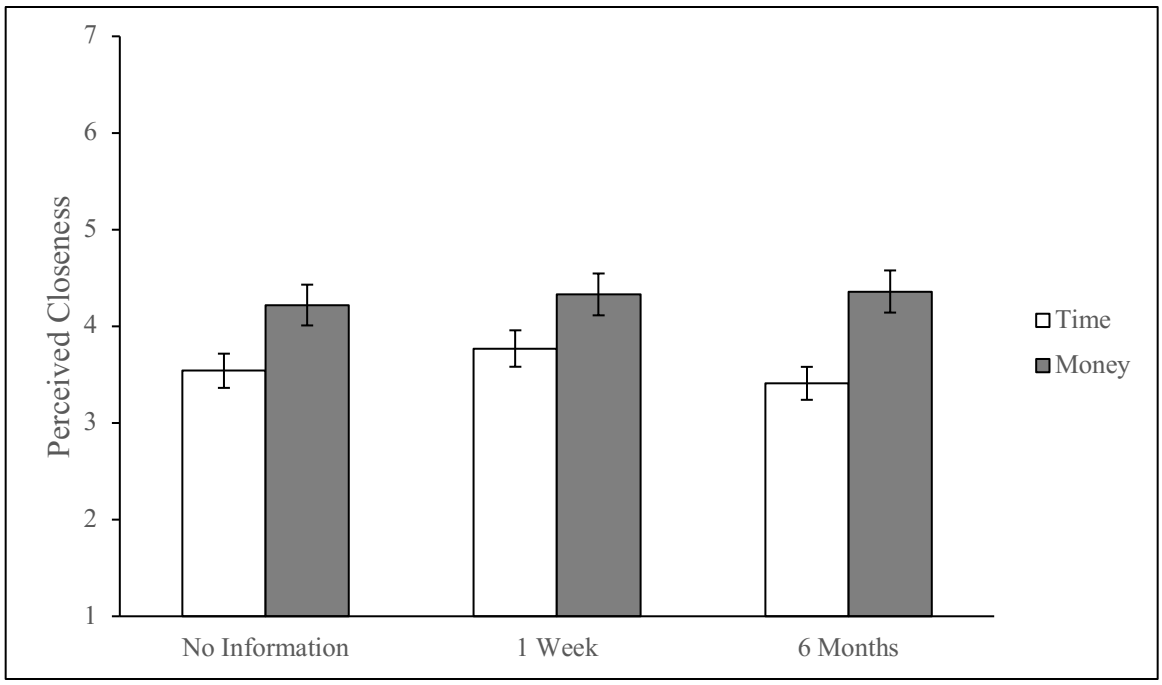
Next, participants completed the same measures from experiments 3A and 3B assessing their impressions of this communication and their relationship partner. They reported the perceived closeness with the relationship partner, perceived controllability of the resource (r = .53, $p < .001$), perceived trustworthiness (α= .93; Pontari, Schlenker and Christopher 2002), and indicated the extent to which they felt their friend's response was private and intimate. Both

questions were measured on a 7-point scale (ranging from 1, *strongly disagree* to 7, *strongly agree*). We created a composite measure averaging these two items ($r = .42$, $p < .001$) as a measure of *perceived intimacy*. Finally, participants were asked to think about their life in general and to state which resource is most scarce in their own life on a 7-point scale (ranging from 1, *definitely money* to 7, *definitely time*). We hypothesized that communication about time scarcity might be more positively received by individuals who currently experience time scarcity in their own life.

Results

Perceived Closeness. We conducted a 2x3 ANOVA to assess the impact of excuse type (money vs. time) and information about length of scarcity (no information, one week, six months) on perceived closeness. There was a main effect of excuse type, $F(1,630) = 39.50$, $p < .001$, but no main effect for information about length of scarcity, $F(2,630) = .91$, $p = .40$. There was no significant interaction between excuse type and scarcity information, $F(2,630) = .97$, $p = .38$. Participants felt closer to their friend when receiving a money excuse than when receiving a time excuse ($M_{money} = 4.31$, $SD = 1.40$; $M_{time} = 3.58$, $SD = 1.53$; $t(634) = 6.26$, $p < .001$, $d = .50$; Figure 3.5).

Figure 3.5
Perceived Closeness by Excuse and Scarcity Length



Perceived Controllability. In regards to perceived controllability, there was a main effect of excuse type ($F(1,630) = 126.31$, $p < .001$), there was also a main effect for scarcity length ($F(1,630) = 4.76$, $p = .009$), but no significant interaction between excuse type and scarcity length ($F(1,630) = .28$, $p = .76$). Participants associated greater controllability with time relative to money ($M_{time} = 4.58$, $SD = 1.48$; $M_{money} = 3.29$, $SD = 3.29$; $t(634) = 11.06$, $p < .001$, $d = .88$). Participants associated greater controllability when the resource was scarce for six-months than for one week ($M_{six\text{-}months} = 4.12$, $SD = 1.53$; $M_{one\ week} = 3.75$, $SD = 1.64$; $t(427) = 2.41$, $p = .02$, $d = .23$), but no other comparisons were significant ($ps > .12$).

Perceived Trustworthiness. For perceived trustworthiness, there was a main effect of excuse type, ($F(1,630) = 23.41$, $p < .001$), a main effect for scarcity length ($F(1,630) = 4.55$, $p = .01$), but no significant interaction between scarcity type and scarcity length ($F(1,630) = 1.39$, $p = .25$). Participants perceived their friend as less trustworthy when receiving a time excuse than when receiving a money excuse ($M_{time} = 4.80$, $SD = 1.42$; $M_{money} = 5.29$, $SD = 1.06$; $t(634) =$

4.71, $p < .001$, $d = .37$), and also perceived less trustworthiness when the resource was scarce for six months compared to one week ($M_{six\text{-}months} = 4.85$, $SD = 1.33$; $M_{one\ week} = 5.21$, $SD = 1.33$; $t(427) = 2.74$, $p = .006$, $d = .26$), but no other comparisons were significant ($ps > .13$).

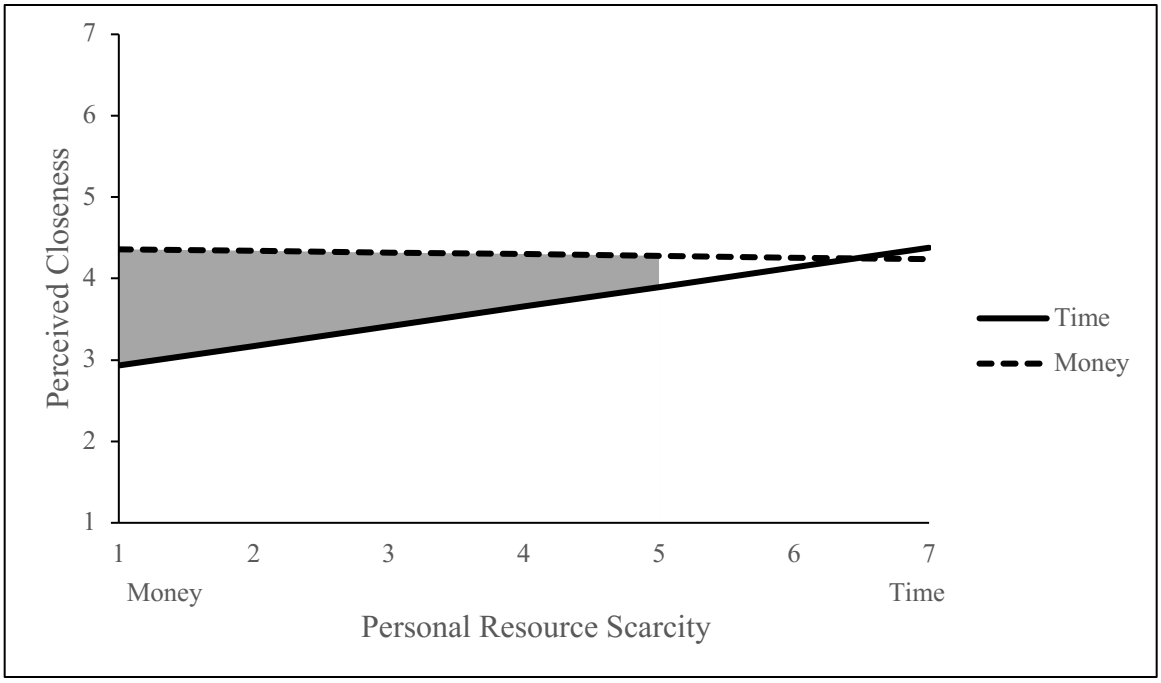
Perceived Intimacy. For perceived intimacy, there was a main effect of excuse type, ($F(1,630) = 44.36$, $p < .001$), a main effect for scarcity length ($F(1,630) = 3.87$, $p = .02$), but no significant interaction between scarcity type and scarcity length ($F(1,630) = 1.34$, $p = .26$). Participants perceived their friend's response as less intimate when receiving a time excuse than when receiving a money excuse ($M_{time} = 3.29$, $SD = 1.31$; $M_{money} = 3.99$, $SD = 1.37$; $t(634) = 6.59$, $p < .001$, $d = .52$), and also perceived less intimacy when the resource was scarce for one week compared to no information ($M_{one\ week} = 3.48$, $SD = 1.48$; $M_{no\ information} = 3.81$, $SD = 1.29$; $t(419) = 2.47$, $p = .01$, $d = .24$) but no other comparisons were significant ($ps > .17$).

Mediation. Since excuse type did not interact with information about the length of time the resource was scarce, we collapsed across this variable and sought to replicate the findings from studies 3A and 3B, evaluating whether the increased closeness observed in the money excuse condition was mediated by perceptions that the scarcity of the resource was not controllable, and in turn, resulted in increased perceptions of trustworthiness. To test for mediation, we followed the instructions outlined in Hayes and Preacher (2014) using the PROCESS Macro and tested our potential mediators sequentially with model 6. Perceptions of controllability and trustworthiness partially mediate the relationship between giving a financial excuse and increased closeness (95% CI, .04 to .15).

Perceived intimacy was also tested as a potential mediator but the confidence interval crossed zero (95% CI, -.11, .04).

Moderation. We also tested whether the resource that was most scarce in our participant's lives moderated our effect of scarcity communication type on perceived closeness. We conducted a 2 (excuse type: money vs. time) x continuous (personal resource scarcity) linear regression on perceived closeness. The model was significant, $F(3,632) = 24.73$, $p < .001$, and revealed a significant main effect for excuse type, ($b = .56$, $t[635] = 6.71$, $p < .001$), such that participants perceived greater closeness from a money excuse than a time excuse. There was also a significant main effect for personal resource scarcity, ($b = .30$, $t[635] = 5.74$, $p < .001$), and a significant interaction between excuse type and personal resource scarcity, ($b = -.38$, $t[635] = -4.23$, $p < .001$). We ran a floodlight analysis using the Johnson-Neyman (1936) technique to identify the range of personal resource scarcity for which the simple effect of scarcity communication type was significant (Figure 3.6; see also Spiller, Fitzsimons, Lynch and McClelland 2013). This analysis revealed a significant reduction in closeness from a time scarcity communication for any value of personal resource scarcity below 5.31 (at $p < .05$). Participants who reported having money scarcity in their everyday life perceived less closeness from a time excuse, whereas participants who reported having time scarcity in their everyday life did not perceive less closeness from a time excuse.

Figure 3.6
EXCUSE TYPE x PERSONAL RESOURCE SCARCITY



We conducted the same linear regression predicting perceived controllability. The model was significant, $F(3,632) = 52.86$, $p < .001$, and revealed a significant main effect for excuse type, ($b = -.66$, $t[635] = -8.42$, $p < .001$), such that participants perceived less controllability from a money excuse than a time excuse. However, there was no main effect for personal resource scarcity, ($b = .02$, $t[635] = .45$, $p = .65$), but there was a significant interaction between excuse type and personal resource scarcity, ($b = .32$, $t[635] = 3.74$, $p < .001$). A floodlight analysis revealed a significant reduction in the perceived controllability of a time excuse when participants reported time as the resource most scarce in their life. The same regression was also conducted predicting perceived trustworthiness. The model was also significant, $F(3,632) = 17.31$, $p < .001$, and revealed a significant main effect for excuse type, ($b = .41$, $t[635] = 4.76$, $p < .001$), such that participants perceived more trustworthiness from communication about scarce money than time. There was a significant main effect for personal resource scarcity, ($b = .12$, $t[635] = 2.21$, $p = .03$), and the interaction between excuse type and personal resource scarcity

was significant, (b = -.27, t[635] = 2.93, p < .001). A floodlight analysis revealed a significant reduction in perceived trustworthiness from a time excuse for any value of personal resource scarcity below 5.06 (at p < .05). Participants who reported having money scarcity in their everyday life perceived less trustworthiness from a time excuse, whereas participants who reported having time scarcity in their everyday life did not perceive less trustworthiness from such communication.

Discussion

Experiment 3C provides further evidence that consumers perceive greater closeness to a relationship partner after receiving a money (vs. time) excuse. We replicated our finding that money (vs. time) is perceived to be less controllable and more trustworthy, ultimately resulting in increased closeness. Further, we also varied whether the excuse included information regarding the length that the resource was scarce. This information did not interact with resource type—money scarcity, regardless of information for how long the resource would be scarce—resulted in increased closeness. It could be that the availability of money is perceived to be less stable than the availability of money and information regarding the length of scarcity did not influence impressions of stability.

In addition, we found communication about money scarcity to be perceived as more intimate, but this did not explain the increase in perceived closeness. Finally, we also found an important moderator that influenced perceived closeness and perceptions of controllability and trustworthiness—the resource that is most scarce in the participant's daily life. Participants who reported having more time scarcity did not perceive differences in trustworthiness and closeness

by resource, whereas consumers who reported having money scarcity perceived greater trustworthiness and closeness from money scarcity communication.

Given that we did not find information about the length of scarcity to influence impressions of controllability, in our next experiment, we seek to better understand how consumers can communicate their scarce resources as beyond their control, and the implications this might have on perceived trustworthiness and interpersonal connection.

EXPERIMENT 4A: THE MODERATING ROLE OF CONTROLLABILITY

Given the underlying role of perceived controllability in reducing trustworthiness and closeness, it follows that this effect should be attenuated if time scarcity communication is accompanied by information explaining the external pressures of the resource. Thus, in this experiment, we manipulate information accommodating the communication to either be for a needed (low controllability) versus a wanted (high controllability) reason to complement our process evidence from experiments 2, 3A, 3B and 3C by providing process evidence through moderation (Spencer, Zanna, and Fong 2005).

Methods

Participants and Design. Four hundred seven adults (47.9% female; M_{age} = 36.79, *SD* = 12.13; 82.0% Caucasian) were recruited through Amazon's Mechanical Turk and were paid a nominal fee for participating. We randomly assigned participants to a 2 (excuse type: money or time) x 2 (controllability: needed reason or wanted reason) between subjects design.

Procedure. Participants were asked to imagine the same scenario from Studies 3B and 3C in which they were inviting a friend to a social engagement. All participants read: "*You are planning a fun night out with some people. You propose to go out for some drinks, a nice meal, and then go to a live comedy show this coming Saturday".*

In the Money Needed condition, participants then read (word changes in the Money Wanted condition are shown in brackets): *"You ask your friend if they would like to join and they say, "That sounds like fun, but unfortunately I can't go because I really need [want] to save money to buy books for my classes [register for an upcoming marathon I want to run]".*

In the Time Needed condition, participants then read (word changes in the Time Wanted conditions are shown in brackets): *"You ask your friend if they would like to join and they say, "That sounds like fun, but unfortunately I can't go because I really need [want] to spend time studying for my classes [training for an upcoming marathon I want to run]".*

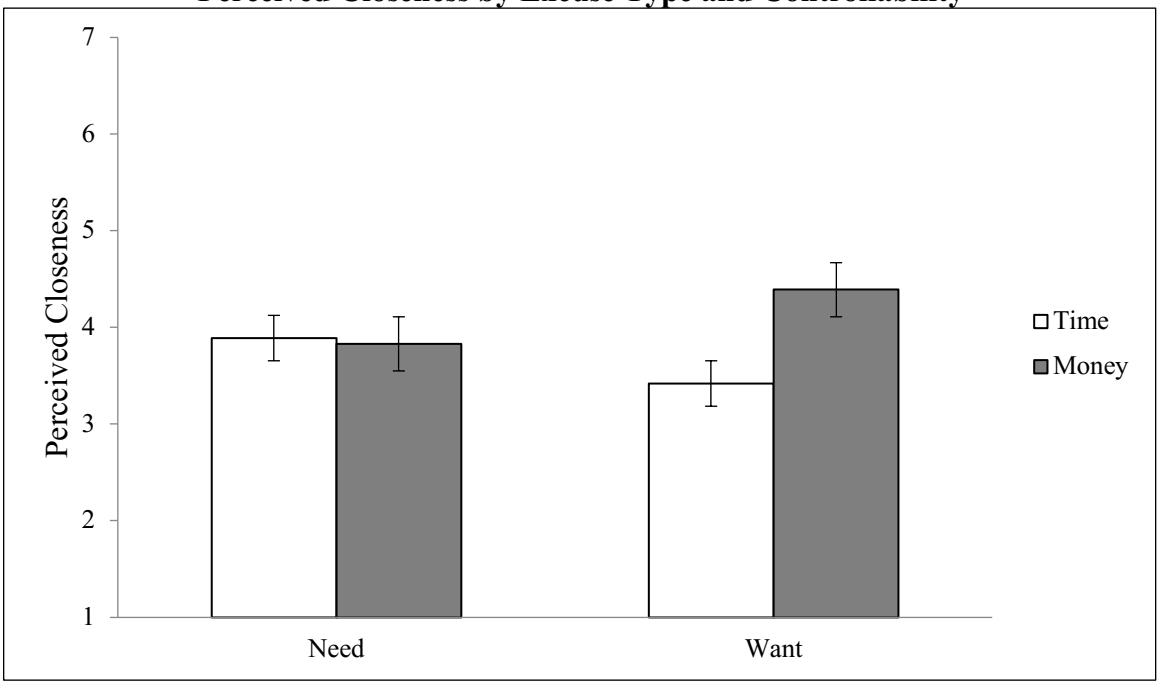
Next, participants completed the same measures from experiment 3A assessing their impressions of this communication and their relationship partner. Participants rated their perceived closeness and trustworthiness (α= .92) of their friend.

Results

Perceived Closeness. We conducted a 2x2 ANOVA to assess the impact of excuse type (time vs. money) and controllability (needed vs. wanted) on perceived closeness. There was a main effect of excuse type ($F(1,403) = 9.17$, $p = .003$)**,** but no main effect for controllability ($F(1,403) = .11$, $p = .74$), however there was a significant interaction between excuse type and controllability ($F(1,403) = 11.99$, $p = .001$). Follow up tests revealed that participants felt closer

to their friend when receiving a money excuse vs. a time excuse (M_{money} = 4.10, SD = 1.56; M_{time} = 3.65, SD = 1.48; $t(405) = 2.99$, $p = .003$, $d = .30$). However, when the reasoning for the scarcity of the resource was for something needed, (*time* to study or *money* for school books) there was no difference in perceived closeness (M_{money} = 3.83, SD = 1.49; M_{time} = 3.89, SD = 1.43; $t(201) = .32$, $p = .75$, $d = .04$), but when the reasoning was for something wanted (*time* to train for a marathon or *money* to register for a marathon) communication regarding money scarcity resulted in greater feelings of closeness than communication of time scarcity (M_{money} = 4.39, SD = 1.59; M_{time} = 3.42, SD = 1.50; $t(202) = 4.47$, $p < .001$, $d = .63$; Figure 3.7).

Figure 3.7
Perceived Closeness by Excuse Type and Controllability



Perceived Trustworthiness. We conducted the same analysis predicting perceived trustworthiness. There was a main effect of excuse type, ($F(1,403) = 3.72$, $p = .05$), but no main effect for controllability ($F(1,403) = .44$, $p = .51$), however, there was a significant interaction between excuse type and controllability ($F(1,403) = 4.03$, $p = .05$). Participants perceived greater

trustworthiness in regards to a money excuse than a time excuse (M_{money} = 5.61, SD = 1.12; M_{time} = 5.39, SD = 1.11; $t(405) = 1.92$, $p = .05$, $d = .19$). In regards to a needed reason, there were no differences in perceived trustworthiness between a money and time excuse (M_{money} = 5.46, SD = 1.05; M_{time} = 5.47, SD = 1.04; $t(201) = .06$, $p = .95$, $d = .01$), however for a wanted reason, participants perceived much greater trustworthiness with a money excuse than a time excuse (M_{money} = 5.75, SD = 1.16; M_{time} = 5.32, SD = 1.17; $t(202) = 2.65$, $p = .009$, $d = .37$).

Mediation. We next examined whether perceptions of increased closeness from a money excuse were mediated by perceptions of trustworthiness and evaluated the moderating role of controllability using the Hayes and Preacher (2014) PROCESS Macro (model 7). Results demonstrate that a financial excuse increases perceived closeness relative to a time excuse for a wanted reason (95% CI, .06 to .48), but not for a needed reason (95% CI, -.18 to .16).

Discussion

Experiment 4A offers convergent support for the proposed underlying process by showing that the differences in perceived closeness from communication of money and time excuses disappear under conditions when the scarcity of the resource is the result of an external constraint (e.g., a 'needed' reason). However, when an excuse was accompanied by information regarding the internal controllability of the resource (e.g., a 'wanted' reason), differences in trustworthiness and closeness were observed.

We next provide additional evidence for our conceptualization by investigating a theoretically driven individual difference that affects the degree to which money and time

resources are perceived as under one's control and, by extension, should influence perceptions of closeness resulting from communication regarding the scarcity of these resources.

EXPERIMENT 4B: THE MODERATING ROLE OF LOCUS OF CONTROL

Based on our theory, because the perceived controllability of time underlies lower trustworthiness and closeness people perceive from communication regarding time scarcity, these perceptions should be moderated by the degree to which time and money are seen as controllable, as measured by people's locus of control. Locus of control is an individual difference, which measures the degree to which individuals attribute an outcome to be determined by their own behavior (Rotter 1966). Individuals with more internal control take more responsibility over the outcomes of their lives, whereas those oriented more towards external control believe in more external factors like chance, luck and fate, or the influence of powerful others.

Methods

Participants and Design. One hundred ninety-nine adults (49.7% female; M_{age} = 33.98, *SD* = 9.71; 73.4% Caucasian) were recruited through Amazon's Mechanical Turk and were paid a nominal fee for participating. We randomly assigned participants to a 2 (excuse type: money or time) x continuous (internal locus of control) between subjects design.

Procedure. Participants were asked to imagine the same scenario used in experiments 3B and 3C in which they were inviting a friend to a social engagement. The instructions read as

follows: "*You are planning a fun night out with some people. You propose to go out for some drinks, a nice meal, and then go to a live comedy show this coming Saturday."*

In the money scarce communication condition, participants read (word changes in the time scarce communication condition are shown in brackets): *"You ask your friend if they would like to join and they say, "That sounds like fun, but unfortunately I can't go. I don't really have money [time]."*

Next, as in our previous experiments, participants reported the extent to which they felt closer to their friend after hearing their response on a 7-point scale (ranging from 1, *strongly disagree*, to 7, *strongly agree*).

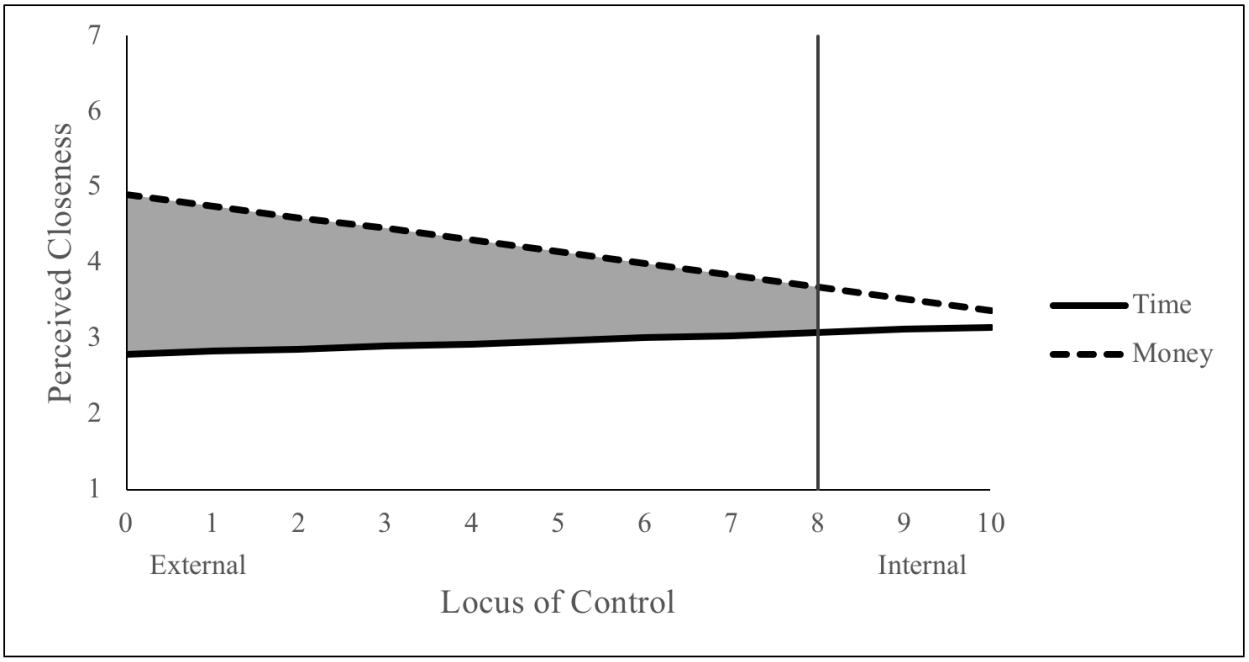
Internal Locus of Control. Next, participants completed a 10-item measure assessing their internal locus of control (Rotter 1966). Participants were presented with two statements assessing control beliefs—internal (e.g., *"People's misfortunes result from the mistakes they make"*) and external (e.g., *"Many of the unhappy things in people's lives are partly due to bad luck"*)—and selected the statement they most strongly believed to be true. Internal control selections were coded as '1' while external control selections were coded as '0'. We summed the responses from all 10 items to generate an internal locus of control score.

Results

Perceived Closeness. We conducted a 2 (excuse type: money vs. time) x continuous (internal locus of control) linear regression on perceived closeness. The model was significant, $F(3,195) = 15.75$, $p < .001$, and revealed a significant main effect for excuse type, ($b = .39$, $t[198] = 6.06$, $p < .001$), such that participants perceived greater closeness from a money excuse

than a time excuse. There was not a significant main effect for internal locus of control, (b = .06, t[198] = .63, p = .53), but a significant interaction between excuse type and internal locus of control, (b = -.23, t[198] = -2.45, p = .02). We ran a floodlight analysis using the Johnson-Neyman (1936) technique to identify the range of locus of control for which the simple effect of scarcity type was significant (Figure 3.8; see also Spiller et al. 2013). This analysis revealed a significant reduction in closeness from scarce time communication for any value of locus of control under 8.00 (at p < .05).

Figure 3.8
EXCUSE TYPE x LOCUS OF CONTROL ON CLOSENESS



Discussion

In experiment 4B, we provide further evidence for our proposed mechanism by showing that internal locus of control, or consumers' degree to which they attribute an outcome to be determined by their own behavior (Rotter 1966), influences perceptions of closeness from time

scarcity communication. Consumers scoring high on internal locus of control, who generally attribute more internal responsibility to the outcomes of their lives (Rotter 1966), felt equally close to a friend who gave a time or money excuse. However, this pattern was not observed among consumers who scored high on external locus of control- those who typically see the outcomes of their life to be subject to chance and external factors. Those scoring high on external locus of control appear to view money as a less controllable resource, and experience greater closeness with a relationship partner who provides a time excuse.

Across our studies, we have found that a money excuse results in greater perceived closeness and trustworthiness relative to a time excuse. We have found consistent evidence that money is perceived to be a less controllable resource, which shapes perceptions of relationship partners who communicate their resource scarcity.

Our exploration so far has only evaluated how excuse-receivers perceive scarcity communication. In our next study we explore how excuse-givers predict their communication to be perceived by excuse-receivers and evaluate the accuracy of such predictions. Further, we explore another common domain in which scarcity communication might occur—rationales to not give to charity (Exley 2016).

EXPERIMENT 5: ASSYMETRY IN PERCEPTIONS OF EXCUSE GIVERS AND RECEIVERS

In our previous studies we have found evidence that consumers perceive communication about time scarcity to be less trustworthy than communication about money scarcity. This effect is driven by perceptions that time is a resource that consumers have more personal control over

and is therefore seen as less trustworthy, ultimately leading to lower feelings of interpersonal connection. In our previous studies we have evaluated consumer impressions of communication regarding invitations to shared consumption, however in the current investigation we explore whether these effects persist when providing a rationale for not giving to charitable causes. Consumers are regularly confronted with the request to give both money and time to charitable causes, and regularly provide rationales as to why they cannot perform this behavior (Exley 2016). As in our previous studies, we evaluate perceptions of individuals who receive communications about resource scarcity, but in this experiment we expand our exploration to also evaluate how individuals who communicate resource scarcity perceive their own communication. We test impressions of both givers and receivers of scarcity communication in a relationship dyad to evaluate if an asymmetry exists in perceptions of trust and controllability and interpersonal outcomes.

Methods

Participants and Design. Eight hundred eighteen adults (409 dyads; 49.6% female; M_{age} = 35.96, *SD* = 11.10) were recruited through Amazon's Mechanical Turk and were paid a nominal fee for participating. We randomly assigned participants to a 2 (role: give or receive) x 2 (scarce resource: money or time) between subjects design.

Procedure. Participants randomly assigned to the giver role were asked to respond to the prompt, *"I would give more to charity if..."* and were randomly assigned to write a few sentences about how they would give more to charity if they had more money or time. After writing, participants were informed that their response would be shared with another mTurk

worker and they were asked to predict how the other worker would decide to split a shared task and evaluate the content of their response.

Shared Task. Excuse-givers then learned that after reading the response they had just generated, another mTurk worker (i.e., the excuse-receiver) would make a decision about how to split a task between the two of them. They learned that there were 6 images that needed to be viewed and rated: 3 images of puppies and 3 images of toilets. We selected this task because we presumed that half the images would be perceived as enjoyable (i.e., the puppy pictures), and half would be perceived as unenjoyable (i.e., the toilet pictures). Excuse-givers were then asked to predict how the other mTurker (i.e., the excuse-receiver) would split the task. The number of puppy pictures they predicted the other mTurker (i.e., the excuse-receiver) would assign to them was our primary dependent measure. A pretest (N = 200, 52.5% female; M_{age} = 37.01, SD = 11.42) found that viewing and rating pictures of puppies was predicted to be more enjoyable (t[198] = 28.32, $p < .001$, d = 4.01), interesting (t[198] = 16.04, $p < .001$, d = 2.27), and fun (t[198] = 23.16, $p < .001$, d = 3.27) than toilets. Therefore, we treated this decision as measuring the prosocial orientation the excuse-receiver had toward the excuse-giver (Reis et al. 2010) and predicted that a higher number of puppy pictures would be allocated to authors of money excuses than time excuses.

Perceived Trustworthiness. Next, participants predicted the extent to which they thought the other mTurker (i.e., excuse-receiver) would think their response to the prompt was trustworthy, cooperative, sincere and principled (α= .92; Pontari, Schlenker and Christopher 2002), on a 7-point scale (ranging from 1, *not at all* to 7, *a great deal*).

Perceived Controllability. Next, participants predicted the extent to which they thought the other mTurker (i.e., excuse receiver) would think they had personal control over the scarce

resource: *"Not having money [time] is a choice for you"* and "*It is possible for you to find the money [time] to give to charity."* Both questions were measured on a 7-point scale (ranging from 1, *not at all* to 7, *a great deal*). We created a composite measure averaging these two items (r = .58, $p < .001$). After making these predictions, excuse-givers viewed 3 images and rated the extent to which they liked them on a 7-point scale (ranging from 1, *not at all* to 7, *a great deal*).

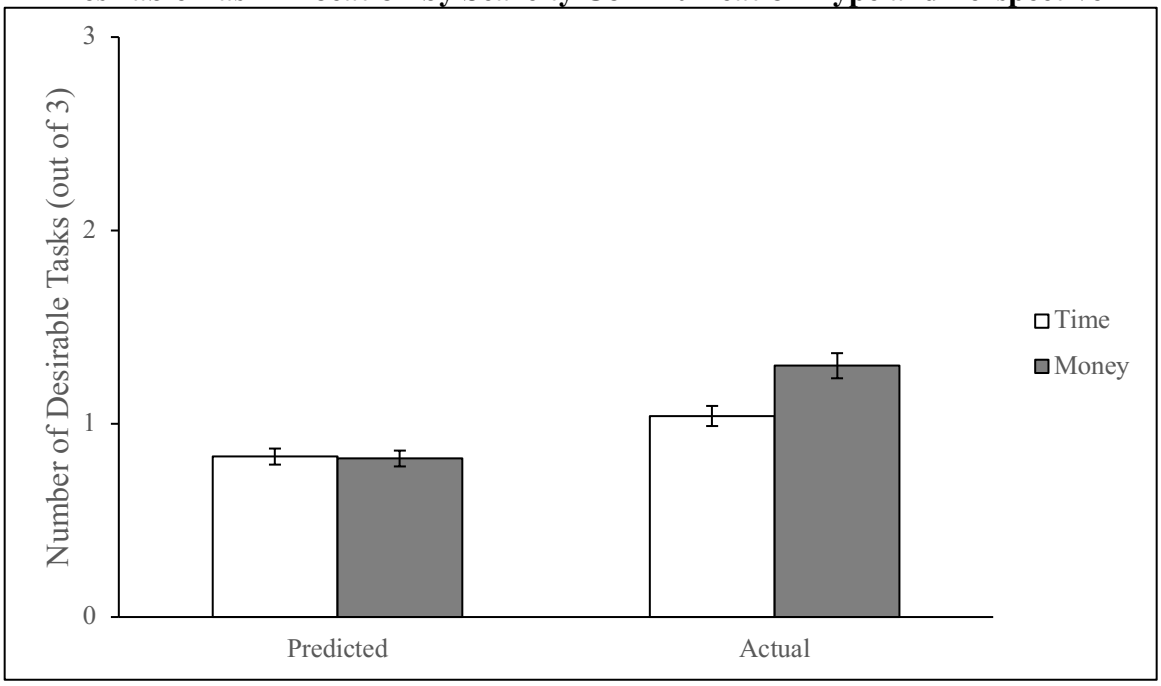
Participants randomly assigned to the role of excuse-receiver were asked to evaluate another mTurker's response (i.e., the excuse-giver) to the prompt, *"I would give more to charity if..."* and were randomly assigned to read a few sentences about how the other mTurker would give more to charity if they had more money or time. After reading this response, excuse-receivers decided how to split the picture rating task between the two of them. The number of puppy pictures assigned to the other mTurker (i.e., excuse-giver) was our primary dependent measure. Following this decision, excuse-receivers rated the response in terms of perceived trustworthiness (α= .91), and controllability (r = .59, $p < .001$).

Results

Shared Task. We conducted a repeated measures ANOVA predicting the number of desirable pictures (puppy pictures) assigned in the shared task, using role (giver vs. receiver) as a within subjects variable and scarce communication type (money vs. time) as a between subjects variable. Therefore, we compare how excuse-givers predict the task will be split to the excuse-receivers actual decision on how to split the task. There was a main effect of role, $F(1,407)$ = 27.61, $p < .001$, and a marginal effect for scarce resource, $F(1,407) = 3.37$, $p = .067$. There was also a significant interaction between role and scarce resource, $F(1,407) = 4.61$, $p = .03$. Excuse-

givers predicted they would be assigned fewer puppy pictures than excuse-receivers actually assigned (M_{givers} = .82, SD = .87; $M_{receivers}$ = 1.18, SD = 1.04; t(408) = 5.38, p < .001, d = .53). While givers of money and time excuses made similar predictions (M_{money} = .82, SD = .84; M_{time} = .83, SD = .90; t(407) = .19, p = .85, d = .02), excuse-receivers assigned a greater number of puppy pictures to givers of money excuses than to givers of time excuses (M_{money} = 1.30, SD = 1.07; M_{time} = 1.04, SD = .98; t(407) = 2.60, p = .01, d = .26; Figure 3.9).

Figure 3.9
Desirable Task Allocation by Scarcity Communication Type and Perspective



Perceived Controllability. We conducted a repeated measures ANOVA predicting perceived controllability, using role (giver vs. receiver) as a within subjects variable and excuse type (money vs. time) as a between subjects variable. There was no main effect of role, F(1,407) = .31, p = .58, but there was a main effect for resource, F(1,407) = 63.22, p < .001. There was also a marginally significant interaction between role and resource, F(1,407) = 2.99, p = .085.

While, givers of money excuses predicted less perceived controllability than givers of time excuses (M_{money} = 3.45, SD = 1.49; M_{time} = 4.15, SD = 1.60; t(407) = 4.61, $p < .001$, d = .46), actual perceptions were consistent with those predicted, but to a much larger degree (M_{money} = 3.21, SD = 1.52; M_{time} = 4.28, SD = 1.58; t(407) = 6.94, p = .001, d = .69).

Perceived Trustworthiness. We conducted the same analysis predicting perceived trustworthiness. There was no main effect for role, F(1,407) = .36, p = .55, but there was a main effect for resource, F(1,407) = 15.72, $p < .001$. There was also a significant interaction between role and resource, F(1,407) = 10.85, p = .001. While, givers of money and time excuses predicted similar levels of perceived trustworthiness (M_{money} = 5.18, SD = 1.31; M_{time} = 5.11, SD = 1.31; t(407) = .53, p = .60, d = .05), excuse-receivers perceived communication of money scarcity to be much more trustworthy than communication of time scarcity (M_{money} = 5.42, SD = 1.18; M_{time} = 4.76, SD = 1.39; t(407) = 5.18, p = .001, d = .51).

Mediation. Next, we evaluated whether excuse-receivers of money scarcity (vs. time) allocated significantly more desirable tasks to excuse-givers because of differences in perceived personal controllability of the resource and trustworthiness. To test for mediation, we followed the instructions outlined in Hayes and Preacher (2014) using the PROCESS Macro and tested our potential mediators sequentially with model 6. Results demonstrate that perceptions of controllability and trustworthiness fully mediate the relationship between money scarcity communication and the assignment of more desirable tasks (95% CI, .01 to .06).

Discussion

Experiment 5 evaluates a behavioral measure of prosocial orientation—the number of desirable pictures allocated in a shared rating task—and found that givers of time scarcity communication receive fewer desirable pictures to rate than givers of money scarcity communication. This difference is fully explained by how the content is perceived—recipients perceived authors of time (vs. money) excuses to have more personal control over the resource which made the content seem less trustworthy. In addition, we demonstrate an asymmetry in how excuses are perceived—participants who gave excuses did not predict differences in the number of desirable tasks they would be allocated or a difference in trustworthiness by the type of resource. While communicators of scarce resources did predict they would be perceived as having more personal control over time than money, this effect was significantly underestimated. In sum, while money excuses are perceived to be less within one's control and in turn more trustworthy, leading to greater interpersonal connection and liking, consumers who generate such content do not appear to appropriately predict how such communication will be perceived and its implications for their interpersonal relationships.

GENERAL DISCUSSION

Eight experiments demonstrate that communicating limited financial resources to relationship partners increases perceived interpersonal closeness and results in greater helping than communicating limited time resources. Further, we show that this effect is driven by perceptions that consumers have more personal control over their time resources, leading consumers to perceive such communication to be less trustworthy than when consumers communicate their limited financial resources.

Theoretical Implications

Our work contributes to attribution theory (e.g., Weiner 1985)—and provides important insights that illuminate how consumers make causal ascriptions to important outcomes. The theory has primarily investigated how consumers perceive effort, ability, luck and the help of other people as the cause of life achievement and failure (e.g., Calder and Burnkrant 1977; Cooper and Burger 1980; Elig and Frieze 1979; Weiner 1985), and how these causal ascriptions of other's success and failures influence how consumer's evaluate and behave toward them (e.g., Fiske et al. 2002; Laczniak, DeCarlo and Ramaswami 2001). We introduce time and money as important causal ascriptions that consumers often communicate to explain their behavior and demonstrate time is perceived to have greater personal volition than money. This finding adds to the growing literature evaluating the different psychology of money and time use (e.g., Mogilner 2010; Shaddy and Shah 2018; Zauberman and Lynch 2005) and provides some initial evidences of the psychological consequences of communication about money and time. Perceptions of personal control over time may have implications for how paid and volunteer work is evaluated and valued. We hope future research will continue to evaluate how time valuation differs among consumers and within consumers in regards to work and leisure, time that is shared and time that is spent alone.

Our finding that people fail to predict the different effect of time and money scarcity communication on trust and liking contributes to previous work on prediction and forecasting errors (e.g., Gilbert and Wilson 2007) and specifically to forecasting errors in conversation and impression management (Huang, Yeomans, Brooks, Minson and Gino 2017; Cooney, Gilbert

and Wilson 2017). While consumers accurately predicted differences in perceived personal control over time and money, they failed to predict how perceived control influenced trust and liking. Specifically, time excuses were predicted to be perceived as more trustworthy then they actually were. Perhaps consumers believe their own time is more valuable than others—a great deal of research has suggested that ownership engenders greater valuation of goods (e.g., Thaler 1980), and in the workplace there is great variation in how time is compensated (e.g., on the domains of skill and expertise; Durkheim 1933). It is also unclear if consumers value each hour in the day equally—compensation for working time may also inform how consumers value their non-working time. Future research could evaluate how valuation of time influences perceptions of trustworthiness.

Practical Implications

Being able to effectively say "no" is a critical skill in regard to the management of individual resources in the pursuit of well-being. While previous literature has demonstrated that the language we use to describe our choices can influence our own thoughts and behaviors (Patrick and Hagtvedt 2012), this research demonstrates how our language choices can influence the thoughts and behaviors of those around us and provides evidence-based strategies that can help consumers better communicate their limited resources to their relationship partners. Ultimately, it is perceived that consumers have more volitional control over time than money, and when turning down a request for shared consumption or explaining why a behavior cannot be acted upon, consumers who discuss limited time are perceived as untrustworthy and liked less. Therefore, bolstering external factors for time pressure should help elevate these negative

evaluations. We demonstrated that when a time constraint was communicated as the result of an external pressure (e.g., a needed reason), differences observed between communication about limited time and limited money disappeared. When a time constraint included information about an external cause, it was perceived just as trustworthy as an external money constraint, resulting in similar perceptions of interpersonal closeness.

One common way that consumers communicate that they don't have time is to explain that they have already committed their time to another engagement. For instance, if a consumer is invited out to dinner but explains that they will be out-of-town during the proposed dinner, the perceived controllability of being unable to attend could be lessened as the excuse provides an external rationale for why they cannot attend. In an additional study ($N = 606$) we evaluated whether perceptions of trust and closeness differed for a money ("I don't have money"), time ("I don't have time"), or an out-of-town ("I will be out of town") excuse. An out-of-town excuse was perceived to be more trustworthy and resulted in greater impressions of interpersonal connection than a time excuse ($ps < .001$), but a money excuse still resulted in significantly greater impressions of trust and closeness than an out-of-town excuse ($ps < .001$). Ultimately, this difference suggests that communicating constraints of time may require additional information that explain the external and uncontrollable factors (e.g., "I will be out of town *because I have to go to my sister's wedding*") of the time commitment. This additional information might reassure the excuse-receiver that the excuse-giver is not simply choosing to do something else with their time because they are not interested in the relationship.

Certainly, there may be a number of circumstances that may reduce the effectiveness of a money excuse or giving a money excuse may seem inappropriate. For instance, responding to an invitation that is relatively low cost (e.g., getting a cup of coffee), or when a consumer has

relatively more wealth than their relationship partner (e.g., supervisors communicating to their employees). In regards to a low-cost event, we ran an additional study ($N = 417$) where we manipulated whether the invitation was for coffee (low cost) or for a dinner out (high cost) and found that even for a low-cost event, a money excuse was perceived as more trustworthy and resulted in greater interpersonal connection than a time excuse ($ps < .001$). These results suggest that perceived personal control may be more about the mere availability of the resource rather than the underlying expense.

In regard to circumstances where the availability of money may be differently available to relationship partners (and this difference is relatively understood by both parties as might be true between a supervisor and employee), a person might feel they cannot communicate limited money. If a money excuse does not feel like an available excuse option, how can consumers best excuse a social shortcoming without providing a time excuse? In one experiment ($N = 303$) we tested the effectiveness of an energy excuse (e.g., "I don't have energy") to a time (e.g., "I don't have time"), and a money (e.g., "I don't have money") excuse. While consumers generally perceive others to have control over their actions and behavior, suggesting that energy is generally considered to be internal to an individual (Ajzen 1985, 2002), there is also evidence that energy can be depleted (Baumeister, Muraven and Tice 2000; Baumeister and Vohs 2017), and cannot be immediately restored by pure will (Tice, Baumeister, Shmueli and Muraven 2007). We found an energy and money excuse to result in similar perceptions of trust and closeness, and this effect was explained by perceptions that energy was less controllable than time. Therefore, for consumers who may wish to avoid talking about money, or under circumstances where discussing finances might seem less appropriate, it does appear that communicating about

limited energy will result in improved interpersonal outcomes over communications of limited time.

Limitations and Future Directions

Our studies used primarily lab and online experimental paradigms, raising the question of whether these effects would be observed in real life conversation. In our first experiment, we evaluate real conversational exchanges among relationship partners on Twitter and observe a large effect on the tendency to 'like' the content, consistent with our theory and experimental paradigms. In experiment 5 we also evaluate these effects in self-generated responses regarding limited money and time. However, recent research suggests that in disagreement, hearing a person explain his or her beliefs makes the person seem more mentally capable (Schroeder, Kardas and Epley 2017) and increases empathy (Kraus 2017), suggesting that the medium in which people communicate— written text or in person conversation—might influence impressions. It is possible that perceived capability and empathy from in person conversations might influence impressions of how much control a person has over the resource they claim to have a shortage of, yet it is unclear if these impressions would differ as a function of the *type* of resource being verbally communicated. We invite future research to investigate this important extension.

Further, our work evaluated one-time encounters, and it is likely that the effect of communicating resource scarcity on interpersonal connection might produce difference effects over repeated interactions. Given that the stable availability of a resource contributes to impressions of personal control over a resource (Weiner et al. 1991), the consistency in which a

relationship partner uses an excuse might influence perceptions of trust and interpersonal connection. It is possible that if a relationship partner consistently claims to not have money that the availability of this resource might be perceived as more stable and more within the excuse-maker's control, reducing the positive benefits we've observed with communicating such shortcomings in one-time observations.

Our investigation examined impressions from one-time interactions. Communication among long-term relationship partners might reveal interesting patterns that were not observed in our investigation. Social closeness increases as people reciprocally share intimate information about each other (Aron et al. 1997; Sedikides et al. 1999) and discussing limited time may be more positively received in a relationship where the excuse-maker has demonstrated their commitment to the relationship over a long time period. It could be that the tendency to communicate about limited time or limited money differ as a function of relationship strength—consumers may feel closer after hearing about money constraints because this topic is typically discussed among more intimate relationship partners. Some evidence suggests this might not be the case—in experiment 3B we did not find perceived intimacy to mediate our effects, and in experiment 2, when consumers recalled a recent experience of hearing a money or time excuse they reported feeling equally close before the communication event.

Consumers may be selective to whom they disclose money or time constraints. In Experiment 3C, we found our effects to be moderated by the recipients own experience of scarcity in their life. It could be that consumers selectively disclose scarcity of a resource they know their conversation partner can identify with or has had previous experience with and this strategy might be effective at managing interpersonal impressions. Group members have been found to evaluate each other more positively when they share information confirming each

other's preferences because this information is perceived to be more accurate and important than information that is disconfirming to preferences (Mojzisch, Kerschreiter, Faulmüller, Vogelgesang and Schulz-Hardt 2014). More research is needed to better understand the motives and consequences for consumers who communicate limited resources, and to better understand how shared (and unshared) values, experiences and preferences influence the decision to disclose and how this information is ultimately received.

Finally, we cannot be certain that consumers interpreted our experimental paradigms as equivalent costs of money and time. The value of time is more ambiguous than money (Okada and Hoch 2004), and consumers may consider the 'cost' of these resources quite differently. However, consumers who are paid an hourly wage (DeVoe and Pfeffer 2010, 2011) or are prompted to quantify time into money (Whillans and Dunn 2015) have been found to treat these resources similarly. Therefore, a potential boundary condition could be observed among a population where time and money are regularly assessed in an equivalent manner such as lawyers who regularly quantify the value of their time for billable hours. Future research should examine this possibility.

Concluding Remarks

Consumers report being increasingly concerned with having enough time (Perlow 1999) and money (Reheault 2011) to meet their needs. While many factors certainly contribute to these stresses, one common concern consumers face is how to communicate their limited resources while also maintaining valued social relationships. This research suggests that discussing money constraints will result in more positive interpersonal outcomes than discussing time constraints.

Ultimately, when discussing limited resources, it is essential to demonstrate lack of personal controllability.

Conclusion and Future Direction

Consumers make countless daily decisions in the pursuit of happiness—whether and how to spend or save their money, what and how much to eat, and when and how to help others. I explore how consumers strive to maximize their well-being in three central domains: financial, physical and (pro)social. Using a combination of laboratory and field experiments, the three papers in this dissertation elucidate a deeper understanding of consumer judgment and decision-making in the pursuit of financial and social well-being.

In my research investigating physical well-being, I examine health policies aimed at reducing the purchase and consumption of sugar-sweetened beverages. Specifically, I examine the underlying psychological responses to these policies to better understand the circumstances in which these policies might succeed and when they might backfire. In one experiment, we tested the effectiveness of a variety of labels for sugary drinks: (a) calories, (b) a text warning, and (c) a text warning with graphic images. Relative to no label, calorie and text warning labels do not significantly decrease the purchasing of sugary drinks. However, a graphic warning label reduces the share of sugary drinks purchased by 15.5%—an effect driven by the substitution of water for sugary drinks. Importantly, graphic warning labels do not decrease overall beverage purchases, but do facilitate healthier choices.

In another paper, I evaluate the New York City Board of Health regulation that restricted the maximum serving size of sugary drink containers to 16 ounces at restaurants and other food outlets. My collaborators and I tested two proposed implementations of a portion limit designed to curb consumption that would preserve businesses' ability to serve large quantities and consumers' freedom of choice: (a) bundling, which divides each 24-oz drink into two 12-oz

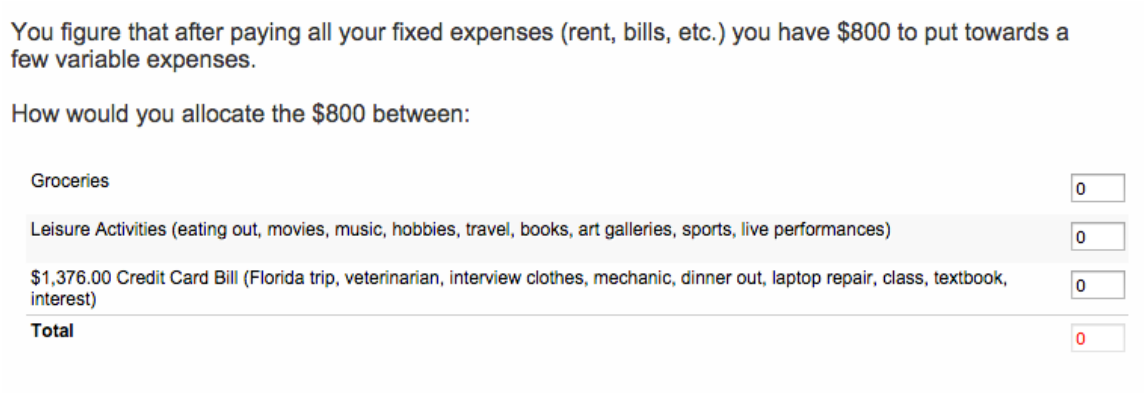
drinks sold as a bundle, and (b) free refills, which means offering a 16-oz drink with unlimited refills included in the price. Four incentive compatible experiments (N = 1,935) measure the actual purchasing and consumption of sugary drinks. We find that consumers are significantly less likely to buy a large beverage when it is divided into two smaller containers. However, consumers are equally likely to buy a large beverage when it is sold in a smaller container with the option of refills.

My current and future work focuses on continuing to develop interventions to increase consumer welfare, while uncovering the underlying psychological mechanisms that can increase (or harm) consumers' financial, physical and social well-being. One area of particular interest is that of student loan debt. With my collaborators I have begun to test interventions to harness parents' cognitive and affective resources with the goal of increasing their contributions to college savings accounts for their children. In addition, I have also begun to explore consumers' decisions to take out student loans. Similar to the CARD Act—which requires creditors to disclose the financial implications of making minimum payments toward a credit card bill—I have begun to test the effect of warning messages explaining the potential financial implications of student loans on consumers' cognitive and affective evaluations of such offers. Ultimately, my goal is to design interventions to help solve some of the pressing obstacles to human well-being, while deriving insights into how, when, and why such interventions prove successful.

APPENDIX A

EXPERIMENT 1 (ESSAY 1): EXPERIMENTAL STIMULI

Condition: Typical Repayment

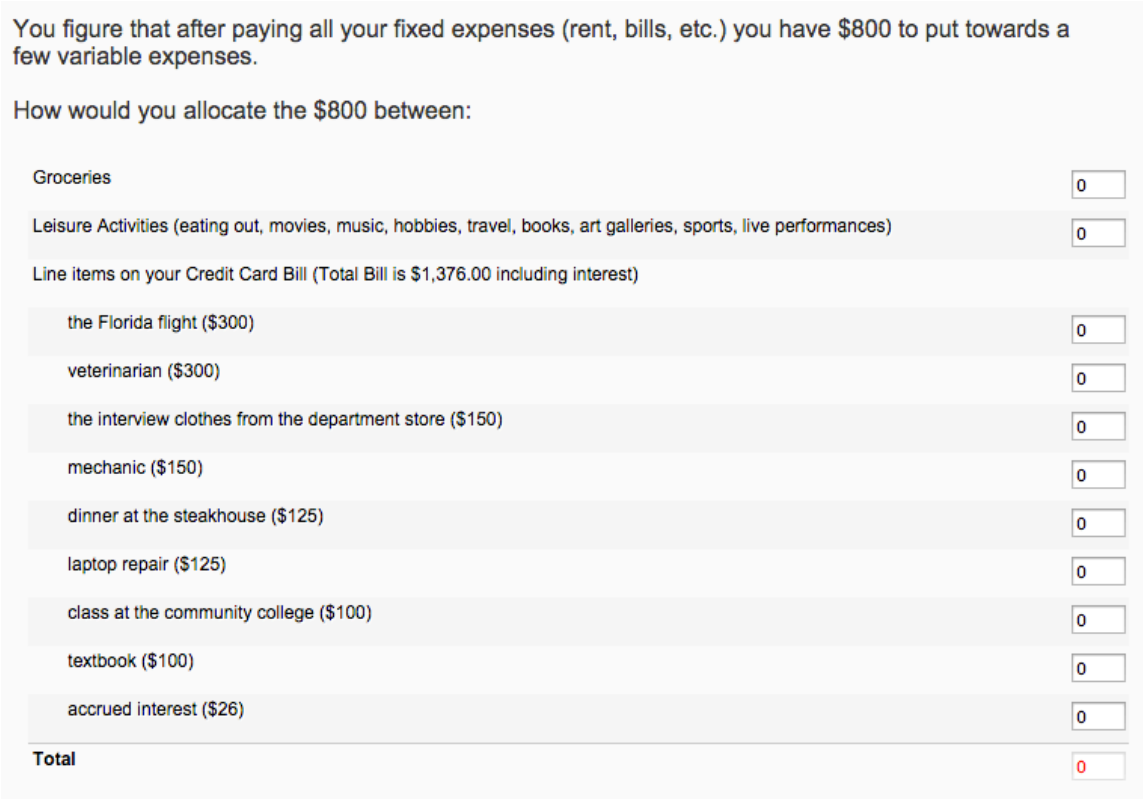


You figure that after paying all your fixed expenses (rent, bills, etc.) you have $800 to put towards a few variable expenses.

How would you allocate the $800 between:

Groceries	0
Leisure Activities (eating out, movies, music, hobbies, travel, books, art galleries, sports, live performances)	0
$1,376.00 Credit Card Bill (Florida trip, veterinarian, interview clothes, mechanic, dinner out, laptop repair, class, textbook, interest)	0
Total	0

Condition: Repayment-by-Purchase



You figure that after paying all your fixed expenses (rent, bills, etc.) you have $800 to put towards a few variable expenses.

How would you allocate the $800 between:

Groceries	0
Leisure Activities (eating out, movies, music, hobbies, travel, books, art galleries, sports, live performances)	0
Line items on your Credit Card Bill (Total Bill is $1,376.00 including interest)	
the Florida flight ($300)	0
veterinarian ($300)	0
the interview clothes from the department store ($150)	0
mechanic ($150)	0
dinner at the steakhouse ($125)	0
laptop repair ($125)	0
class at the community college ($100)	0
textbook ($100)	0
accrued interest ($26)	0
Total	0

APPENDIX B
EXPERIMENT 1 (ESSAY 1): PURCHASES REPAID UNDER REPAYMENT-BY-PURCHASE

To evaluate if participants prioritize repaying purchases by specific attributes, we conducted a mixed model predicting whether a payment was made toward a purchase (0 = no, 1 = yes) from five independent variables: (a) the purchase date, (b) the relative size of the purchase from all others on the bill, (c) an interaction term of purchase date and size, (d) whether the purchase was an interest charge (0 = no, 1 = yes), and (e) whether the purchase was considered a discretionary purchase (0 = no, 1 = yes). We based the discretionary coding on a pretest (N = 103; M_{age} = 34.47, SD = 10.72; 58.3% female; 75.7% Caucasian), which showed that the Florida vacation and dinner at the Italian restaurant were perceived to be discretionary purchases (e.g., their mean ratings were significantly higher than the midpoint of the 7-point scale; all $ps < .001$) while all other purchases were considered non-discretionary (e.g., their mean ratings were significantly lower than the midpoint of the 7-point scale; all $ps < .001$).

Participants were significantly more likely to allocate a payment toward items with relatively older purchase dates (β = -.11, SE = .05; t[819] = -2.21, p = .03), and to allocate a payment to relatively smaller purchases (β = -.25, SE = .09; t[819] = 2.74, p = .006). There was also a significant interaction between purchase date and relative size (β = .03, SE = .01; t[819] = 3.56, $p < .001$). However, we did not observe an increased tendency to make a payment toward interest fees (β = -.03, SE = .10; t[819] = -.26, p = .80), or toward discretionary purchases (β = -.01, SE = .05; t[819] = -.11, p = .91).

APPENDIX C
EXPERIMENT 2 (ESSAY 1): PURCHASES REPAID UNDER REPAYMENT-BY-PURCHASE

To evaluate if participants prioritize repaying purchases by specific attributes, we conducted a mixed model predicting whether a payment was made toward a purchase (0 = no, 1 = yes) from three independent variables: (a) the relative size of the purchase from all others on the bill, (b) whether the purchase was an interest charge (0 = no, 1 = yes), and (c) whether the purchase was considered a discretionary purchase (0 = no, 1 = yes). We did not include purchase date or an interaction of purchase date and size as independent variables in the model because purchase date and size were not distinct variables in this experiment.

Unlike experiment 1, participants were not more likely to repay relatively smaller purchases (β = -.01, *SE* = .02; *t*[900] = -.47, *p* = .63). However, consistent with experiment 1, we did not observe an increased tendency to make a payment toward interest fees (β = -.03, *SE* = .06; *t*[900] = -.52, *p* = .60), or toward discretionary purchases (β = .05, *SE* = .06; *t*[900] = .86, *p* = .39).

APPENDIX D

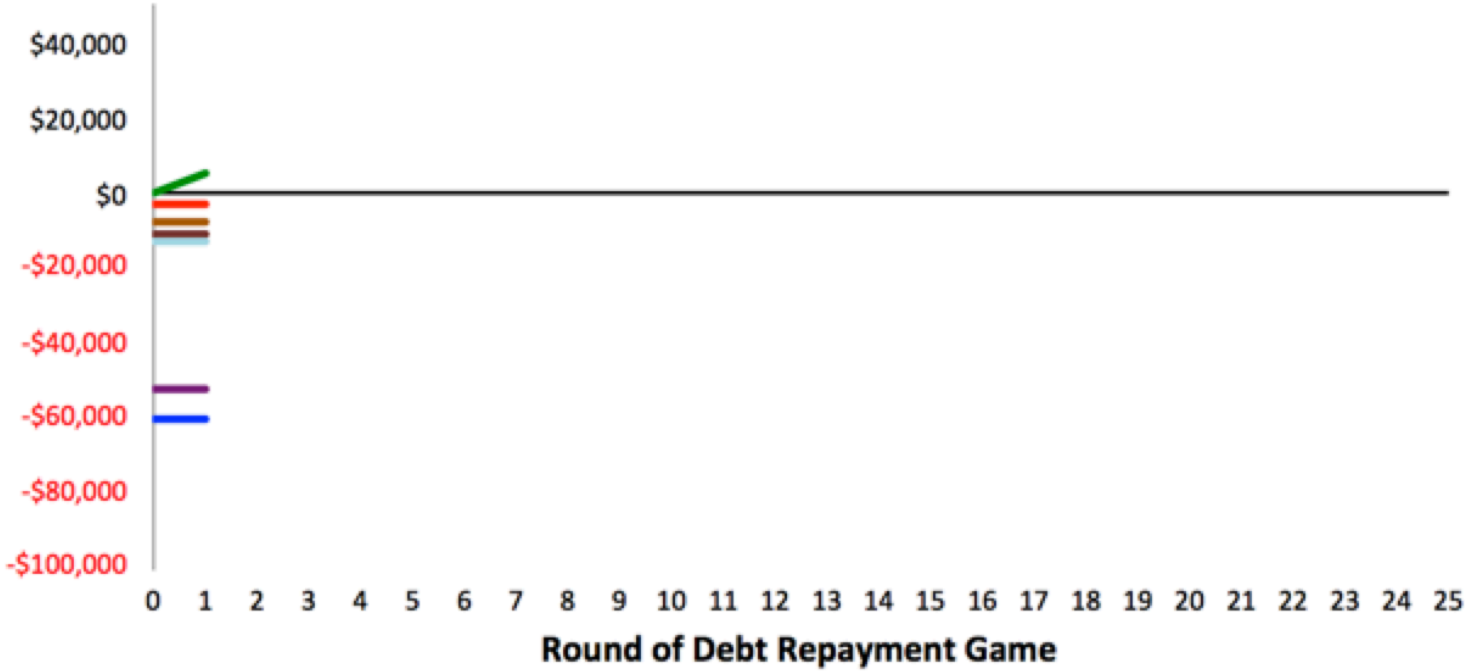
EXPERIMENT 3 (ESSAY 1): TYPICAL REPAYMENT EXPERIMENTAL STIMULI

Round 1 of 25	PAYMENT
Debt 1	$0.00
Debt 2	$0.00
Debt 3	$0.00
Debt 4	$0.00
Debt 5	$0.00
Debt 6	$0.00

Available Balance: $5,000.00

Current Debt Status	
Debt 1: $-3,000.00	APR: 2.50%
Debt 2: $-8,000.00	APR: 2.00%
Debt 3: $-11,000.00	APR: 3.50%
Debt 4: $-13,000.00	APR: 3.25%
Debt 5: $-52,000.00	APR: 3.75%
Debt 6: $-60,000.00	APR: 4.00%

Total Debt: $-147,000.00



APPENDIX E

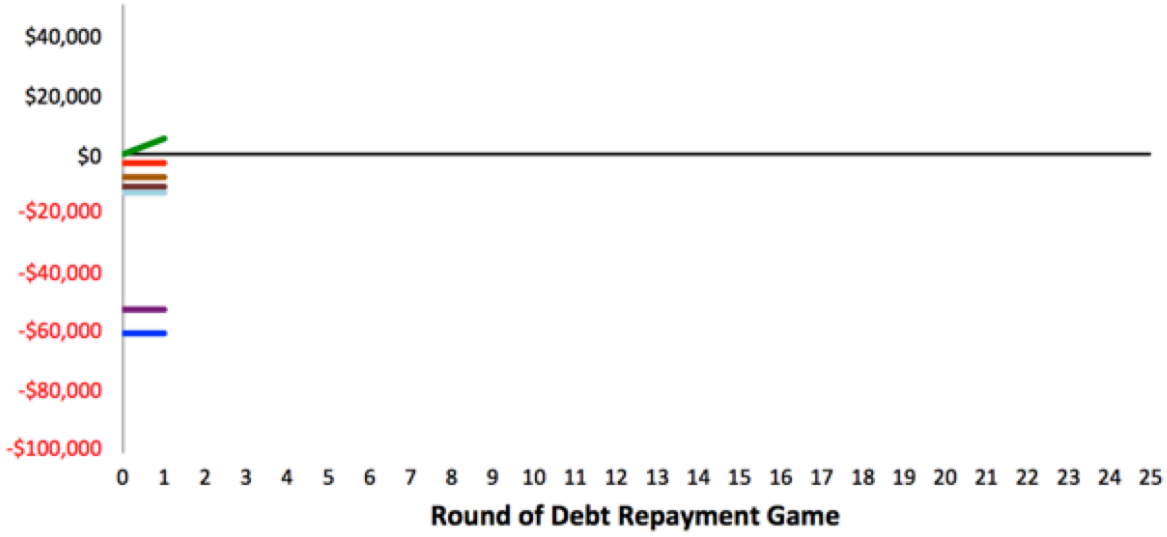
EXPERIMENT 3 (ESSAY 1): REPAYMENT-BY-PURCHASE EXPERIMENTAL STIMULI

Round 1 of 25	PAYMENT
Debt 1	$0.00
Debt 2	$0.00
Debt 3	$0.00
Debt 4	$0.00
Debt 5	$0.00
Debt 6	$0.00
Tuition	$0.00
Vacation	$0.00
House Remodel	$0.00
Medical Bills	$0.00
Mechanic	$0.00
Vet Bill	$0.00

Available Balance: $5,000.00

Current Debt Status	
Debt 1: $-3,000.00	APR: 2.50%
Debt 2: $-8,000.00	APR: 2.00%
Debt 3: $-11,000.00	APR: 3.50%
Debt 4: $-13,000.00	APR: 3.25%
Debt 5: $-52,000.00	APR: 3.75%
Debt 6: $-60,000.00	APR: 4.00%
Tuition: $-18,480.00	
Vacation: $-10,585.00	
House Remodel: $-4,410.00	
Medical Bills: $-15,880.00	
Mechanic: $-7,165.00	
Vet Bill: $-3,480.00	

Total Debt: $-147,000.00



APPENDIX F
EXPERIMENT 3 (ESSAY 1): PURCHASES REPAID UNDER REPAYMENT-BY-PURCHASE

To test for any patterns in repayment decisions by purchase attributes, we estimated a mixed model predicting the round in which a purchase was completely paid off from four independent variables: (a) the order the purchase was listed on the screen, (b) the relative size of the purchase from all others, (c) the interaction of order and size, and (d) whether the purchase was considered a discretionary purchase (0 = no, 1 = yes). We based the discretionary coding on a pretest (N = 103; M_{age} = 36.88, SD = 12.29; 56.3% female; 85.4% Caucasian), which showed that the vacation and social experiences were perceived to be discretionary purchases (e.g., their mean ratings were significantly higher than the midpoint of the 7-point scale; all $ps < .001$) while all other purchases were considered non-discretionary (e.g., their mean ratings were significantly lower than the midpoint of the 7-point scale; all $ps < .001$).

Participants paid off items marginally faster when they were presented at the top versus at the bottom (β = 2.79, SE = 1.59; t[516] = 1.75, p = .08). Participants paid off relatively smaller purchases before relatively larger purchases (β = 3.14, SE = 1.51; t[516] = 2.07, p = .04), but there was no significant interaction between order and relative size (β = -.13, SE = .23; t[516] = -.55, p = .55). However, participants paid off discretionary purchases after repaying non-discretionary purchases (β = 5.29, SE = 2.61; t[516] = 2.03, p = .04).

APPENDIX G
EXPERIMENT 4A (ESSAY 1): EXPERIMENTAL STIMULI

Transactions (continued)				
Post Date	**Trans Date**	**Reference**	**Description**	**Amount**
10/18	10/18	051404876LYJABEZX	#07627 SHAWS OSCO GROTON MA	$5.69
10/18	10/18	2553606772ZXTFWMJ	KARMA RESTAURANT WESTFORD MA	$50.97
10/23	10/23	85349147DWGNGKTK6	DANTES RESTAURANT MAHOPAC NY	$43.00
10/23	10/23	55432867B00RW78Q2	STARBUCKS #00861 CAMBR CAMBRIDGE MA	$6.31
10/24	10/24	05486807DB01JD23R	EXXONMOBIL 99217010 MIDDLEBURY CT	$50.25
10/27	10/27	55480777G8B38SX19	BORDER CAFE CAMBRIDGE MA	$61.00
10/30	10/30	55432867K00G709D1	PEETS #05605 CAMBRIDGE MA	$2.46
11/2	11/2	05436847NHEW2EVQY	KOHLS #0539 EAST WALPOLE MA	$234.76
11/3	11/3	05436847PHEW58TWF	MACY*S EAST #0186 CAMBRIDGE MA	$120.00
11/4	11/4	55432867T00TKW74N	ZAP*ZAPPOS.COM 800-927-7671 NV	$314.00
			Fees	
			TOTAL FEES FOR THIS PERIOD	**$0.00**

Note. This credit card statement was used for both balance and purchase repayment and was also used in Experiment 4B and Experiment 5.

APPENDIX H
EXPERIMENT 4A (ESSAY 1): PURCHASES REPAID UNDER REPAYMENT-BY-PURCHASE

To test for any patterns in repayment decisions by purchase attributes, we conducted a mixed model predicting whether a payment was made toward a purchase (0 = no, 1 = yes) from four independent variables: (a) the purchase date, (b) the relative size of the purchase from all others on the bill, (c) the interaction of purchase date and size, and (d) whether the purchase was considered a discretionary purchase (0 = no, 1 = yes). We based the discretionary coding on a pretest (N = 99; M_{age} = 37.60, SD = 12.78; 52.5% female; 83.7% Caucasian), which showed that the Shaw's grocery purchase and Exxon Mobil purchase were perceived to be non-discretionary purchases (e.g., their mean ratings were significantly lower than the midpoint of the 7-point scale; all ps < .001) while all other purchases were considered discretionary (e.g., their mean ratings were significantly higher than the midpoint of the 7-point scale; all ps < .001). This bill was perceived to contain more discretionary items than the credit bills in our previous studies.

Participants did not seem to be influenced by purchase date (β = -.01, SE = .01; t[1198] = -.74, p = .46), or purchase size (β = -.02, SE = .02; t[1198] = -1.44, p = .15), and there was no interaction between purchase date and relative size (β = .00, SE = .00; t[1198] = .01, p = .94). Unlike our previous study, participants were not influenced by whether the purchase was discretionary (β = .00, SE = .04; t[1198] = .03, p = .97). However, more items on this bill were considered discretionary.

Next, because consumers were allowed to make multiple decisions in this repayment task, we were able to estimate a mixed model predicting the order in which items were repaid from the same independent variables. Participants paid items with relatively older purchase dates before items with relatively newer purchase dates (β = .55, SE = .08; t[731] = 6.73, p < .001),

and to allocate a payment to relatively smaller purchases before relatively larger purchases (β = .58, SE = .10; t[731] = 5.89, $p < .001$). There was also a significant interaction between purchase date and relative size (β = -.08, SE = .01; t[731] = -6.07, $p < .001$). However, there was no effect for discretionary purchases (β = -.18, SE = .25; t[731] = -.73, p = .47).

APPENDIX I
EXPERIMENT 4B (ESSAY 1): PURCHASES REPAID UNDER REPAYMENT-BY-PURCHASE

To test for any patterns in repayment decisions by purchase attributes, we conducted a mixed model predicting whether a payment was made toward a purchase (0 = no, 1 = yes) from four independent variables: (a) the purchase date, (b) the relative size of the purchase from all others on the bill, (c) the interaction of purchase date and size, and (d) whether the purchase was considered a discretionary purchase (0 = no, 1 = yes). We based the discretionary coding on a pretest (N = 99; M_{age} = 37.60, SD = 12.78; 52.5% female; 83.7% Caucasian), which showed that the Shaw's grocery purchase and Exxon Mobil purchase were perceived to be non-discretionary purchases (e.g., their mean ratings were significantly lower than the midpoint of the 7-point scale; all $ps < .001$) while all other purchases were considered discretionary (e.g., their mean ratings were significantly higher than the midpoint of the 7-point scale; all $ps < .001$). This bill was perceived to contain more discretionary items than the credit bills in our previous studies.

Participants were significantly more likely to make a payment toward items with relatively older purchase dates (β = -.06, SE = .01; t[2392] = -5.45, $p < .001$), and to make a payment to relatively smaller purchases (β = -.05, SE = .01; t[2392] = -4.31, $p < .001$). There was also a significant interaction between purchase date and relative size (β = .01, SE = .00; t[2392] = 4.43, $p < .001$). Participants were significantly more likely to make a payment toward discretionary purchases (β = .09, SE = .03; t[2392] = 2.92, p = .001), perhaps because most of the items on the bill were considered discretionary.

Next, because consumers were allowed to make multiple decisions in this repayment task, we estimated a mixed model predicting the order in which items were repaid from the same independent variables. Participants paid items with relatively older purchase dates before items

with relatively newer purchase dates (β = .59, SE = .07; t[1104] = 8.42, p < .001), and to allocate a payment to relatively smaller purchases before relatively larger purchases (β = .73, SE = .08; t[1104] = 8.81, p < .001). There was also a significant interaction between purchase date and relative size (β = -.09, SE = .01; t[1104] = -8.78, p < .001). Participants paid discretionary purchases before non-discretionary purchases (β = -.58, SE = .22; t[1104] = -2.62, p = .009).

APPENDIX J

EXPERIMENT 5 (ESSAY 1): EXPERIMENTAL STIMULI

CREDIT CARD STATEMENT (VENDOR NAME NOT PRESENT)

Transactions (continued)				
Post Date	**Trans Date**	**Reference**	**Description**	**Amount**
10/18	10/18	051404876LYJABEZX	CHARGE GROTON MA	$5.69
10/18	10/18	2553606772ZXTFWMJ	CHARGE WESTFORD MA	$50.97
10/23	10/23	85349147DWGNGKTK6	CHARGE MAHOPAC NY	$43.00
10/23	10/23	55432867B00RW78Q2	CHARGE CAMBRIDGE MA	$6.31
10/24	10/24	05486807DB01JD23R	CHARGE MIDDLEBURY CT	$50.25
10/27	10/27	55480777G8B38SX19	CHARGE CAMBRIDGE MA	$61.00
10/30	10/30	55432867K00G709D1	CHARGE CAMBRIDGE MA	$2.46
11/2	11/2	05436847NHEW2EVQY	CHARGE EAST WALPOLE MA	$234.76
11/3	11/3	05436847PHEW58TWF	CHARGE CAMBRIDGE MA	$120.00
11/4	11/4	55432867T00TKW74N	CHARGE LAS VEGAS NV	$314.00
Fees				
			TOTAL FEES FOR THIS PERIOD	**$0.00**

APPENDIX K
EXPERIMENT 5 (ESSAY 1): PURCHASES REPAID UNDER REPAYMENT-BY-PURCHASE

To test for any patterns in repayment decisions by purchase attributes, we estimated a mixed model predicting whether a payment was made toward a purchase (0 = no, 1 = yes) from four independent variables: (a) the purchase date, (b) the relative size of the purchase from all others on the bill, (c) the interaction of purchase date and size, and (d) whether the purchase was considered a discretionary purchase (0 = no, 1 = yes).

Participants were significantly more likely to make a payment toward items with relatively older purchase dates (β = -.04, *SE* = .01; t[3128] = -4.76, $p < .001$), and to allocate a payment to relatively smaller purchases (β = -.04, *SE* = .01; t[3128] = -3.70, $p < .001$). There was also a significant interaction between purchase date and relative size (β = .004, *SE* = .001; t[3128] = =3.01, p = .003). Participants were significantly more likely to make a payment toward discretionary purchases (β = .08, *SE* = .03; t[3128] = 3.02, p = .003).

Next, because consumers were allowed to make multiple decisions in this repayment task, we estimated a mixed model predicting the order in which items were repaid from the same independent variables. Participants paid items with relatively older purchase dates before items with relatively newer purchase dates (β = .67, *SE* = .06; t[1343] = 11.44, $p < .001$), and to allocate a payment to relatively smaller purchases before relatively larger purchases (β = .67, *SE* = .07; t[1343] = 9.51, $p < .001$). There was also a significant interaction between purchase date and relative size (β = -.10, *SE* = .01; t[1343] = -10.86, $p < .001$). Participants paid discretionary purchases before non-discretionary purchases (β = -.49, *SE* = .18; t[1343] = -2.73, p = .007).

APPENDIX L
EXPERIMENT 1 (ESSAY 2): EXPERIMENTAL STIMULI [INFORMATION]

<Retailer Logo>

Through charitable donations and grants from <Retailer name's> Charitable Foundation®, <retailer name> supports programs that provide vital services within communities.

This month, the < city name > Club is making donations totaling $4,500 to these local organizations:

< city name > Free Public Library
Offers free access to literature, audiobooks, and movies and supports Project Literacy, providing free literacy education to adult students.

Meals on Wheels - < city name >
Delivers nutritious meals to homebound seniors while assessing the health and safety of seniors.

< city name > Education Foundation
Raises private funds to support, enhance and enrich public education in < city name >.

APPENDIX M
EXPERIMENT 1 (ESSAY 2): EXPERIMENTAL STIMULI [VOTING]

<Retailer Logo>

We are asking for your help in deciding which organization receives these grants.

The organization that receives the most votes will receive a $2,500 grant, while the other two will receive $1,000 grants.

Vote by checking the box next to the cause you want to receive the $2,500 grant.

I vote for:

☐ < city name > Free Public Library

☐ Meals on Wheels - < city name >

☐ < city name > Education Foundation

APPENDIX N
EXPERIMENT 1 (ESSAY 2): HISTORICAL DATA

Randomization Check

	Information Condition	Voting Condition	Difference
Average Customer Basket Size			
Units	17.24	17.02	-0.22 (0.24)
Revenue	$119.31	$117.71	$1.60 ($1.67)
Log Units	3.84	3.82	0.02 (0.02)
Log Revenue	$6.14	$6.12	($0.02) ($0.02)
Number of Historical Baskets/ Customer			
Avg. Number of Baskets	51.66	51.87	0.21 (0.76)
% of Customers Without Any Historical Purchases	4.00%	4.37%	0.36% (0.54%)
Sample size	5,010	5,048	

Note: This table reports average basket sizes and numbers of transactions calculated using the historical transactions (prior to the test period). To preserve confidentiality the numbers are multiplied by random numbers (using a common random number within each row). Standard errors are in parentheses.

APPENDIX O
EXPERIMENT 2 (ESSAY 2): SURVEY QUESTIONS

The survey included items designed to assess customers' perceptions of their own prosocial attitudes (Gneezy et al. 2012), and their attitudes towards the firm (Nan and Heo 2007). Instead of asking each customer every question, we grouped the questions into blocks, and randomized which block of questions each customer responded to. The organization of questions into blocks is summarized below. This rotation of the questions was designed to shorten the response time required from each customer.

The survey was administered after the experimental treatments, which allows us to again compare the results by condition. Recall also that the survey questions were grouped into three blocks and we randomly rotated which block of questions each customer answered. This rotation means that the 122 new customers are separated into 6 cells, representing two experimental conditions and 3 question blocks. The resulting sample sizes are small (an average of just 20 responses in each cell), and so comparing the survey responses by the new customers across the experimental conditions does not yield any significant differences.

Survey Questions

Block A

To what extent do you see yourself as:

	Not At All				A Great Deal
Helpful	□	□	□	□	□
Selfish	□	□	□	□	□

If you had $500 how much would you:

_____ Keep for yourself

_____ Donate to charity

Block B

How interested are you in purchasing the following types of products:

	Not At All				A Great Deal
Fair trade	□	□	□	□	□
Organic	□	□	□	□	□
Natural	□	□	□	□	□
Box Top Education	□	□	□	□	□

Block C

How much do you agree with the following statements:

	Not At All				A Great Deal

I will shop at <retailer> more in the future	□	□	□	□	□
I will spend more at <retailer> in the future	□	□	□	□	□
I need a treat	□	□	□	□	□
I deserve a treat	□	□	□	□	□

APPENDIX P

EXPERIMENTS 3-5 (ESSAY 2): HYPOTHETICAL PURCHASING OPTIONS

List of Items Available to Purchase

Item	Price
Matted 4x6 collage black picture frame	$17.99
Biddeford heated throw	$45.93
MUHI touchscreen gloves	$13.97
Nike duffel bag	$28.99
Fitbit wireless activity and sleep tracker	$99.99
Phillips Sonicare electric toothbrush	$39.99
REI Merino wool expedition socks	$16.50
Sony MDRZX 100ZX series headphones	$14.53
Magic Bullet 17-Piece express mixing set	$48.49
Libbey Vina 12-piece stemless wine glasses	$33.95

REFERENCES

Aaker, David A. (1996), "Measuring Brand Equity Across Products and Markets," *California Management Review*, 38 (3), 102-20.

Ackerman, Brian P., and Eleanor D. Brown (2010), "Physical and Psychosocial Turmoil in the Home and Cognitive Development," In G. W. Evans and T. D. Wachs (Eds.), *Chaos and its Influence on Children's Development: An Ecological Perspective* (35-47). Washington, DC: American Psychological Association.

Ajzen, Icek (1985), "From Intentions to Actions: A Theory of Planned Behavior," In *Action Control* (11-39). Springer, Berlin Heidelberg.

Ajzen, Icek (2002), "Perceived Behavioral Control, Self-Efficacy, Locus of Control, and the Theory of Planned Behavior," *Journal of Applied Social Psychology*, 32 (4), 665-683.

Amar, Moty, Dan Ariely, Shahar Ayal, Cynthia E. Cryder and Scott I. Rick (2011), "Winning the Battle but Losing the War: The Psychology of Debt Management," *Journal of Marketing Research*, 48 (SPL), S38-S50.

Amir, On, and Dan Ariely (2008), "Resting on Laurels: The Effects of Discrete Progress Markers as Subgoals on Task Performance and Preferences," *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 34 (5), 1158-71.

Andrews, Michelle, Xueming Luo, Zheng Fang and Jaakko Aspara (2014), "Cause Marketing Effectiveness and the Moderating Role of Price Discounts," *Journal of Marketing*, 78 (6), 120-42.

Aquino, Karl, Dan Freeman, Americus Reed II, Vivien K. G. Lim, and Will Felps (2009), "Testing a Social-Cognitive Model of Moral Behavior: The Interactive Influence of Situations and Moral Identity Centrality," *Journal of Personality and Social Psychology*,

97 (1), 123-41.

Ariely, Dan, Emir Kamenica, and Drazen Prelec (2008), "Man's Search for Meaning: The Case of Legos," *Journal of Economic Behavior & Organization*, 67 (3), 671-77.

Aron, Arthur, Edward Melinat, Elaine N. Aron, Robert Darrin Vallone, and Renee J. Bator (1997), "The Experimental Generation of Interpersonal Closeness: A Procedure and Some Preliminary Findings," *Personality and Social Psychology Bulletin*, 23 (4), 363-77.

Bagozzi, Richard P., and Elizabeth A. Edwards (1998), "Goal Setting and Goal Pursuit in the Regulation of Body Weight," *Psychology and Health*, 13 (4), 593-621.

Bandura, Albert (1986), "The Explanatory and Predictive Scope of Self-Efficacy Theory," *Journal of Social and Clinical Psychology*, 4 (3), 359-373.

Bandura, Albert, and Karen M. Simon (1977), "The Role of Proximal Intentions in Self-Regulation of Refractory Behavior," *Cognitive Therapy and Research*, 1 (3), 177-93.

Baron, Reuben M., and David A. Kenny (1986), "The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations," *Journal of Personality and Social Psychology*, 51 (1), 1173-82.

Bauer, Monika A., James E. B. Wilkie, Jung K. Kim, and Galen V. Bodenhausen (2012), "Cuing Consumerism: Situational Materialism Undermines Personal and Social Well-Being," *Psychological Science*, 23 (5), 517-23.

Baumeister, Roy F., and Kathleen D. Vohs (2007), "Self-Regulation, Ego Depletion, and Motivation," *Social and Personality Psychology Compass*, 1 (1), 115-28.

Baumeister, Roy F., and Mark R. Leary (1995), "The Need to Belong: Desire for Interpersonal Attachments as a Fundamental Human Motivation," *Psychological Bulletin*, 117 (3), 497-529.

Baumeister, Roy F., Mark Muraven, and Dianne M. Tice (2000), "Ego Depletion: A Resource Model of Volition, Self-Regulation, and Controlled Processing," *Social Cognition*, 18 (2), 130-50.

Baumeister, Roy F., Sara R. Wotman, and Arlene M. Stillwell (1993), "Unrequited Love: On Heartbreak, Anger, Guilt, Scriptlessness and Humiliation," *Journal of Personality and Social Psychology*, 64 (3), 377-94.

Belk, Russell W. (1976), "It's the Thought that Counts: A Signed Digraph Analysis of Gift-Giving," *Journal of Consumer Research*, 3 (3), 155-62.

Bellezza, Silvia, Neeru Paharia and Anat Keinan (2016), "Conspicuous Consumption of Time: When Busyness and Lack of Leisure Time Become a Status Symbol," *Journal of Consumer Research*, 44 (1), 118-38.

Benartzi, Shlomo, and Richard Thaler (2001), "Naïve Diversification Strategies in Defined Contribution Saving Plans," *American Economic Review*, 91 (1), 79-98.

Bies, Robert J., Debra L. Shapiro, and Larry L. Cummings (1988), "Causal Accounts and Managing Organizational Conflict: Is it Enough to Say It's Not my Fault?," *Communication Research*, 15 (4), 381-99.

Bigné, Enrique, Rafael Currás-Pérez, and Joaquín Aldás-Manzano (2012), "Dual Nature of Cause-Brand Fit: Influence on Corporate Social Responsibility Consumer Perception," *European Journal of Marketing*, 46 (3/4), 575-94.

Blanchard, Simon J., Kurt A. Carlson, and Jamie D. Hyodo (2016), "The Favor Request Effect: Requesting a Favor from Consumers to Seal the Deal," *Journal of Consumer Research*, 42 (6), 985-1001.

Brinberg, David and Pat Castell (1982), "A Resource Exchange Theory Approach to

Interpersonal Interactions: A Test of Foa's Theory," *Journal of Personality and Social Psychology*, 43 (2), 260-9.

Brown, Alexander L., and Joanna N. Lahey (2015), "Small Victories: Creating Intrinsic Motivation in Task Completion and Debt Repayment," *Journal of Marketing Research*, 52 (6), 768-83.

Bureau of Labor Statistics (2016a), *Average Annual Expenditures by Major Category of all Consumer Units and Percent Changes: Consumer Expenditure Survey (2013-2016)*. https://www.bls.gov/opub/reports/consumer-expenditures/2016/home.htm (Retrieved April 2, 2018).

Bureau of Labor Statistics (2016b), *Time Spent in Detailed Primary Activities and Percent of the Civilian Population Engaging in Each Activity, Averages per day by Sex (2016 Annual Averages)*. https://www.bls.gov/tus/a1_2016.pdf (Retrieved April 2, 2018).

Butler, John K. (1991), "Toward Understanding and Measuring Conditions of Trust: Evolution of a Conditions of Trust Inventory," *Journal of Management*, 17 (3), 643-63.

Calder, Bobby J., and Robert E. Burnkrant (1977), "Interpersonal Influence on Consumer Behavior: An Attribution Theory Approach," *Journal of Consumer Research*, 4 (1), 29-38.

Camerer, Colin, Linda Babcock, George Loewenstein and Richard Thaler (1997), "Labor Supply of New York City Cabdrivers: One Day at a Time," *The Quarterly Journal of Economics*, 112 (2), 407-41.

Carrasco, Marisa (2006), "Covert Attention Increases Contrast Sensitivity: Psychophysical, Neurophysiological and Neuroimaging Studies," *Progress in Brain Research*, 154, 33-70.

Carstensen, Laura L., Derek M. Isaacowitz, and Susan T. Charles (1999), "Taking Time

Seriously: A Theory of Socioemotional Selectivity," *American Psychologist*, 54 (3), 165-81.

Cheema, Amar, and Rajesh Bagchi (2011), "The Effect of Goal Visualization on Goal Pursuit: Implications for Consumers and Managers," *Journal of Marketing*, 75 (2), 109-23.

Claessens, Brigitte J. C., Wendelien van Eerde, Christel G. Rutte, and Robert A. Roe (2007), "A Review of the Time Management Literature," *Personnel Review*, 36 (2), 255-76.

Clark, Margaret S., and Judson Mills (1979), "Interpersonal Attraction in Exchange and Communal Relationships," *Journal of Personality and Social Psychology*, 37 (1), 12-24.

Clark, Herbert H., and Edward F. Schaefer (1989), "Contributing to Discourse," *Cognitive Science*, 13 (2), 259-94.

Conner, Mark, Paschal Sheeran, Paul Norman, and Christopher J. Armitage (2000), "Temporal Stability as a Moderator of Relationships in the Theory of Planned Behavior," *British Journal of Social Psychology*, 39 (4), 469-93.

Consumer Financial Protection Bureau (2017). *Credit Card Agreement Database*. https://www.consumerfinance.gov/credit-cards/agreements/ (Retrieved July 7, 2017).

Cook, John, and Toby Wall (1980), "New Work Attitude Measures of Trust, Organizational Commitment and Personal Need Non-Fulfillment," *Journal of Occupational and Organizational Psychology*, 53 (1), 39-52.

Cooney, Gus, Daniel T. Gilbert, and Timothy D. Wilson (2017), "The Novelty Penalty: Why do People Like Talking About New Experiences but Hearing About Old Ones?," *Psychological Science*, 28 (3), 380-94.

Cooper, Harris M., and Jerry M. Burger (1980), "How Teachers Explain Students' Academic Performance: A Categorization of Free Response Academic Attributions," *American*

Educational Research Journal, 17 (1), 95-109.

Crant, Michael J., and Thomas S. Bateman (1993), "Assignment of Credit and Blame for Performance Outcomes," *Academy of Management Journal*, 36 (1), 7-27.

Critchlow, Barbara (1985), "The Blame in the Bottle: Attributions About Drunken Behavior," *Personality and Social Psychology Bulletin*, 11 (3), 258-274.

Cropanzano, Russell, and Marie S. Mitchell (2005), "Social Exchange Theory: An Interdisciplinary Review," *Journal of Management*, 31 (6), 874-900.

Darby, Bruce W., and Barry R. Schlenker (1982), "Children's Reactions to Apologies," *Journal of Personality and Social Psychology*, 43 (4), 742-53.

Davies, James B., Susanna Sandström, Anthony Shorrocks and Edward Wolff (2009), "The Global Pattern of Household Wealth," *Journal of International Development*, 21 (8), 111-24.

Delgado-Ballester, Elena, Jose Luis Munuera-Aleman, and Maria Jesus Yague-Guillen (2003), "Development and Validation of a Brand Trust Scale," *International Journal of Market Research*, 45 (1), 35-54.

DeVoe, Sanford E., and Jeffrey Pfeffer (2010), "The Stingy Hour: How Accounting for Time Affects Volunteering," *Personality and Social Psychology Bulletin*, 36 (4), 470-83.

DeVoe, Sanford E., and Jeffrey Pfeffer (2010), "Time is Tight: How Higher Economic Value of Time Increases Feelings of Time Pressure," *Journal of Applied Psychology*, 96 (4), 665-76.

Dhar, Ravi (1997), "Consumer Preference for a No-Choice Option," *Journal of Consumer Research*, 24 (2), 215-31.

Dunn, Elizabeth W., Lara B. Aknin, and Michael I. Norton (2008), "Spending Money on Others

Promotes Happiness," *Science*, 319 (5870), 1687-8.

Durkheim, Emile (1933), *The Division of Labor in Society*, New York: Macmillan.

Elig, Timothy W., and Irene H. Frieze (1979), "Measuring Causal Attributions for Success and Failure," *Journal of Personality and Social Psychology*, 37 (4), 621-34.

Epley, Nicholas, and Adam Waytz (2010), "Mind Perception," In S. T. Fiske, D. T. Gilbert, and G. Lindzey (Eds.), *The Handbook of Social Psychology* (498-541). New York, New York: Wiley.

Evans, Gary W. (2016), "Childhood Poverty and Adult Psychological Well-Being," *Proceedings of the National Academy of Sciences*, 113 (52), 14949-52.

Evans, Gary W., and Rochelle C. Cassells (2014), "Childhood Poverty, Cumulative Risk Exposure, and Mental Health in Emerging Adults," *Clinical Psychological Science*, 2 (3), 287-96.

Evite (2018), *About Evite*. https://www.evite.com/content/about_us (Retrieved April 9, 2018).

Exley, Christine L. (2016), "Excusing Selfishness in Charitable Giving: The Role of Risk," *The Review of Economic Studies*, 83 (2), 587-628.

Federal Reserve (2013). *Consumer Experiences with Credit Cards*. https://www.federalreserve.gov/pubs/bulletin/2013/pdf/consumer-experiences-with-credit-cards-201312.pdf (Retrieved February 21, 2017).

Federal Reserve (2014). *Changes in U.S. Family Finances from 2010 to 2013: Evidence from the Survey of Consumer Finances*. https://www.federalreserve.gov/pubs/bulletin/2014/pdf/scf14.pdf (Retrieved February 21, 2017).

Federal Reserve (2016). *Consumer Credit*. https://www.federalreserve.gov/releases/g19/current/

(Retrieved February 21, 2017).

Federal Reserve (2017). *Charge-Off and Delinquency Rates on Loans and Leases at Commercial Banks*. https://www.federalreserve.gov/releases/chargeoff/delallsa.htm (Retrieved July 7, 2017).

Fishbach, Ayelet and Ravi Dhar (2005), "Goals as Excuses or Guides: The Liberating Effect of Perceived Goal Progress on Choice," *Journal of Consumer Research*, 32 (3), 370-77.

Fiske, Alan P. (1992), "The Four Elementary Forms of Sociality: Framework for a Unified Theory of Social Relations," *Psychological Review*, 99 (4), 689-723.

Fiske, Susan T., Amy J. C. Cuddy, Peter Glick, and Jun Xu (2002), "A Model of (Often Mixed) Stereotype Content: Competence and Warmth Respectively Follow from Perceived Status and Competition," *Journal of Personality and Social Psychology*, 82 (6), 878-902.

Foa, Edna B., and Uriel G. Foa (1980), "Resource Theory," In *Social Exchange* (77-94). Boston, Massachusetts: Springer.

Folkers, Valerie S. (1982), "Communicating the Reasons for Social Rejection," *Journal of Experimental Social Psychology*, 1 (3), 235-52.

Fox, Craig R. and Robert T. Clemen (2005), "Subjective Probability Assessment in Decision Analysis: Partition Dependence and Bias Toward the Ignorance Prior," *Management Science*, 51 (9), 1417-32.

Fox, Craig R., Rebecca K. Ratner, and Daniel S. Lieb (2005), "How Subjective Grouping of Options Influences Choice and Allocation: Diversification Bias and the Phenomenon of Partition Dependence," *Journal of Experimental Psychology: General*, 134 (4), 538-51.

Franke, Nikolaus, Peter Keinz, and Christoph J. Steger (2009), "Testing the Value of Customization: When do Customers really Prefer Products Tailored to their

Preferences?," *Journal of Marketing*, 73 (5), 103-21.

Fuchs, Christoph, and Martin Schreier (2011), "Customer Empowerment in New Product Development," *Journal of Product Innovation Management*, 28 (1), 17-32.

Fuchs, Christoph, Emanuela Prandelli, and Martin Schreier (2010), "The Psychological Effects of Empowerment Strategies on Consumers' Product Demand," *Journal of Marketing*, 74 (1), 65-79.

Fukurai, Hiroshi, and Edgar W. Butler (1991), "Organization, Labor Forces, and Jury Representation: Economic Excuses and Jury Participation," *Jurimetrics*, 32 (1), 49-69.

Fuller-Rowell, Thomas E., Gary W. Evans, Elise Paul, and David S. Curtis (2015), "The Role of Poverty and Chaos in the Development of Task Persistence Among Adolescents," *Journal of Research on Adolescence*, 25 (4), 606-13.

Gal, David, and Blakeley B. McShane (2012), "Can Small Victories Help Win the War? Evidence from Consumer Debt Management," *Journal of Marketing Research*, 49 (3), 487-501.

Gentry, Jeff (2016), *R Based Twitter Client,* https://cran.r-project.org/web/packages/twitteR/twitteR.pdf (Retrieved January 21, 2018).

Gilbert, Daniel T., and Timothy D. Wilson (2007), "Prospection: Experiencing the Future," *Science*, 317 (5843), 1351-4.

Gino, Francesca, and Cassie Mogilner (2014), "Time, Money, and Morality," *Psychological Science*, 25 (2), 414-21.

Gist, Marilyn E., and Terence R. Mitchell (1992), "Self-Efficacy: A Theoretical Analysis of its Determinants and Malleability," *Academy of Management Review*, 17 (2), 183-211.

Gneezy, Ayelet, Uri Gneezy, Leif D. Nelson, and Amber Brown (2010), "Shared Social

Responsibility: A Field Experiment in Pay-What-You-Want-Pricing and Charitable Giving," *Science*, 329 (5989), 325-27.

Gneezy, Ayelet, Alex Imas, Amber Brown, Leif D. Nelson and Michael I. Norton (2012), "Paying to be Nice: Consistency and Costly Prosocial Behavior," *Management Science*, 58 (1), 179-87.

Goldstein, Noah J., Vladas Griskevicius, and Robert B. Cialdini (2011), "Reciprocity by Proxy: A Novel Influence Strategy for Stimulating Cooperation," *Administrative Science Quarterly*, 56 (3), 441-73.

Gourville, John T., and Dilip Soman (1998), "Payment Depreciation: The Behavioral Effects of Temporally Separating Payments From Consumption," *Journal of Consumer Research*, 25 (2), 160-74.

Gourville, John T., and Dilip Soman (2005), "Overchoice and Assortment Type: When and Why Variety Backfires," *Marketing Science*, 24 (3), 382-95.

Hayashi, Fumiko, and Joanna Stavins (2011), "Effects of Credit Scores on Consumer Payment Choice," *Public Policy Discussion Papers, Federal Reserve Bank of Boston*, 12 (1), 1-47.

Hayes, Andrew F., and Kristopher J. Preacher (2014), "Statistical Mediation Analysis with a Multicategorical Independent Variable," *British Journal of Mathematical and Statistical Psychology*, 67 (3), 451-70.

Hershfield, Hal E., and Neal J. Roese (2015), "Dual Payoff Scenario Warnings on Credit Card Statements Elicit Suboptimal Payoff Decisions," *Journal of Consumer Psychology*, 25 (1), 15-27.

Huang, Karen, Michael Yeomans, Alison Wood Brooks, Julia Minson, and Francesca Gino (2017), "It Doesn't Hurt to Ask: Question-Asking Increases Liking," *Journal of*

Personality and Social Psychology, 113 (3), 430-52.

Iyengar, Sheena S., and Mark R. Lepper (2000), "When Choice is Demotivating: Can One Desire too Much of a Good Thing?," *Journal of Personality and Social Psychology*, 79 (6), 995-1006.

James, Lawrence R., and Jeanne M. Brett (1984), "Mediators, Moderators, and Tests for Mediation," *Journal of Applied Psychology*, 69 (2), 307-321.

John, Leslie K., Oliver Emrich, Sunil Gupta, and Michael I. Norton (2017), "Does "Liking" Lead to Loving? The Impact of Joining a Brand's Social Network on Marketing Outcomes," *Journal of Marketing Research*, 54 (1), 144-55.

Johnson, Palmer O., and Jerzy Neyman (1936), "Tests of Certain Linear Hypotheses and Their Application to Some Educational Problems," *Statistical Research Memoirs*, 1 (1), 57-93.

JP Morgan Chase (2017), *Chase Blueprint Credit Cards*, Retrieved from https://creditcards.com.chase.com/credit-cards/blueprint

Judd, Charles M., and David A. Kenny (1981), "Process Analysis: Estimating Mediation in Treatment Evaluations," *Evaluation Review*, 5 (1), 602-19.

Karlsson, Niklas, George Loewenstein, and Duane Seppi (2009), "The Ostrich Effect: Selective Attention to Information," *Journal of Risk and Uncertainty*, 38 (2), 95-115.

Karmarkar, Uma R., and Bryan Bollinger (2015), "BYOB: How Bringing your own Shopping Bags Leads to Treating Yourself and the Environment," *Journal of Marketing*, 79 (4), 1-15.

Kettle, Keri L., Remi Trudel, Simon J Blanchard, and Gerald Häubl (2016), "Repayment Concentration and Consumer Motivation to Get Out of Debt," *Journal of Consumer Research*, 43 (3), 460-477.

Khan, Uzma, and Ravi Dhar (2006), "Licensing Effect in Consumer Choice," *Journal of Marketing Research*, 43 (2), 259-66.

Kim, Tami, Ting Zhang, and Michael I. Norton (under review), "Pettiness in Social Exchange," *Journal of Experimental Psychology: General*.

Kim, Yeo Jung, and Wei-Na Lee (2009), "Overcoming Consumer Skepticism in Cause-Related Marketing: The Effects of Corporate Social Responsibility and Donation Size Claim Objectivity," *Journal of Promotion Management*, 15 (4), 465-83.

Kivetz, Ran, Oleg Urminsky, and Yuhaung Zheng (2006), "The Goal-Gradient Hypothesis Resurrected: Purchase Acceleration, Illusionary Goal Progress, and Customer Retention," *Journal of Marketing Research*, 43 (1), 39-58.

Krajbich, Ian, and Antonio Rangel (2011), "Multialternative Drift-Diffusion Model Predicts the Relationship Between Visual Fixations and Choice in Value-Based Decisions," *Proceedings of the National Academy of Sciences of the United States of America*, 108, 13852-57.

Krajbich, Ian, Carrie Armel, and Antonio Rangel (2010), "Visual Fixations and the Computation and Comparison of Value in Simple Choice," *Nature Neuroscience*, 13, 1292-98.

Krajbich, Ian, Dingchao Lu, Colin Camerer, and Antonio Rangel (2012), "The Attentional Drift-Diffusion Model Extends to Simple Purchasing Decisions," *Frontiers in Psychology*, 3, 199-211.

Kraus, Michael W. (2017), "Voice-only Communication Enhances Empathic Accuracy," *American Psychologist*, 72 (7), 644-54.

Kraus, Michael W., and Dacher Keltner (2013), "Social Class Rank, Essentialism, and Punitive Judgment," *Journal of Personality and Social Psychology*, 105 (2), 247-61.

Kraus, Michael W., Paul K. Piff, and Dacher Keltner (2009), "Social Class, Sense of Control, and Social Explanation," *Journal of Personality and Social Psychology*, 97 (6), 992-1004.

Ksendzova, Masha, Grant E. Donnelly, and Ryan T. Howell (2017), "A Brief Money Management Scale and its Associations with Personality, Financial Health, and Hypothetical Debt Repayment," *Journal of Financial Counseling and Planning*, 28 (1), 62-75.

Laczniak, Russell N., Thomas E. DeCarlo, and Sridhar N. Ramaswami (2001), "Consumers' Responses to Negative Word-of-Mouth Communication: An Attribution Theory Perspective," *Journal of Consumer Psychology*, 11 (1), 57-73.

Lawler, Edward J., and Jeongkoo Yoon (1996), "Commitment in Exchange Relations: Test of a Theory of Relational Cohesion," *American Sociological Review*, 61 (1), 89-108.

Lee, Alice J., and Daniel R. Ames (2017), "I Can't Pay More" Versus "It's Not Worth More": Divergent Effects of Constraint and Disparagement Rationales in Negotiations," *Organizational Behavior and Human Decision Processes*, 141 (1), 16-28.

Linville, Patricia W., and Gregory W. Fischer (1991), "Preferences for Separating or Combining Events," *Journal of Personality and Social Psychology*, 60 (1), 5-23.

Liu, Wendy, and Jennifer Aaker (2008), "The Happiness of Giving: The Time-Ask Effect," *Journal of Consumer Research*, 35 (3), 543-57.

Lynch, John Jr., Richard G. Netemeyer, Stephen A. Spiller, and Alessandra Zammit (2009), "A Generalizable Scale of Propensity to Plan: The Long and Short of Planning for Time and for Money," *Journal of Consumer Research*, 37 (1), 108-28.

McAllister, Daniel J. (1995), "Affect-and Cognition-Based Trust as Foundations for

Interpersonal Cooperation in Organizations," *Academy of Management Journal*, 38 (1), 24-59.

Mendes, Wendy Berry, Brenda Major, Shannon McCoy, and Jim Blascovich (2008), "How Attributional Ambiguity Shapes Physiological and Emotional Responses to Social Rejection and Acceptance," *Journal of Personality and Social Psychology*, 94 (2), 278-91.

Messick, David M., and Roderick M. Kramer (2001), "Trust as a Form of Shallow Morality," In K. Cook (Ed.), *Trust in Society* (89-117). New York, New York: Russell Sage.

Mogilner, Cassie (2010), "The Pursuit of Happiness: Time, Money, and Social Connection," *Psychological Science*, 21 (9), 1348-54.

Mogilner, Cassie, and Jennifer Aaker (2009), "The Time vs. Money Effect": Shifting Product Attitudes and Decisions Through Personal Connection," *Journal of Consumer Research*, 36 (2), 277-91.

Mogilner, Cassie, Ashley Whillans, and Michael I. Norton (2018), "Time, Money, and Subjective Well-Being," In *Handbook of Well-Being. Noba Scholar Handbook Series: Subjective Well-Being* (1-16). Salt Lake City, Utah: DEF Publishers.

Mogilner, Cassie, Zoë Chance, and Michael I. Norton (2012), "Giving Time Gives you Time," *Psychological Science*, 23 (10), 1233-38.

Mohr, Lois A., and Deborah J. Webb (2005), "The Effects of Corporate Social Responsibility and Price on Consumer Responses" *Journal of Consumer Affairs*, 39 (1), 121-47.

Mohr, Lois A., Deborah J. Webb, and Katherine E. Harris (2001), "Do Consumers Expect Companies to be Socially Responsible? The Impact of Corporate Social Responsibility on Buying Behavior" *Journal of Consumer Affairs*, 35 (1), 45-72.

Mojzisch, Andreas, Rudolf Kerschreiter, Nadira Faulmüller, Frank Vogelgesang, and Stefan Schulz-Hardt (2014), "The Consistency Principle in Interpersonal Communication: Consequences of Preference Confirmation and Disconfirmation in Collective Decision Making," *Journal of Personality and Social Psychology*, 106 (6), 961-77.

Mrkva, Kellen, and Leaf Van Boven (2017), "Attentional Accounting: Voluntary Spatial Attention Increases Budget Category Prioritization" *Journal of Experimental Psychology*, 146 (9), 1296-1306.

Murray, Brian, and Barry Gerhart (1998), "An Empirical Analysis of a Skill-Based Pay Program and Plant Performance Outcomes," *Academy of Management Journal*, 41 (1), 68-78.

Nan, Xiaoli, and Kwangjun Heo (2007), "Consumer Responses to Corporate Social Responsibility (CSR) Iniatives: Examining the Role of Brand-Cause Fit in Cause-Related Marketing" *Journal of Advertising*, 36 (2), 63-74.

Navarro-Martinez, Daniel, Linda C. Salisbury, Katherine N. Lemon, Neil Stewart, William J. Matthews, and Adam J. L. Harris (2011), "Minimum Required Payment and Supplemental Information Disclosure Effects on Consumer Debt Repayment Decisions," *Journal of Marketing Research*, 48 (SPL), S60-S77.

Norton, Michael I., and Dan Ariely (2011), "Building a Better America—One Wealth Quintile at a Time," *Perspectives on Psychological Science*, 6 (1), 9-12.

Okada, Erica Mina, and Stephen J. Hoch (2004), "Spending Time Versus Spending Money," *Journal of Consumer Research*, 31 (2), 313-23.

Park, Whan C., Deborah J. MacInnis, Joseph Priester, Andreas B. Eisingerich, and Dawn Iacobucci (2010), "Brand Attachment and Brand Attitude Strength: Conceptual and Empirical Differentiation of Two Critical Brand Equity Drivers," *Journal of Marketing*,

74 (6), 1-17.

Patrick, Vanessa M., and Henrik Hagtvedt (2012), "I Don't" Versus "I Can't": When Empowered Refusal Motivates Goal-Directed Behavior," *Journal of Consumer Research*, 39 (2), 371-81.

Payne, Monica, and Adrian Furnham (1985), "Explaining the Causes of Poverty in the West Indies: A Cross-Cultural Comparison," *Journal of Economic Psychology*, 6 (3), 215-29.

Perlow, Leslie A. (1999), "The Time Famine: Toward a Sociology of Work Time," *Administrative Science Quarterly*, 44 (1), 57-81.

Pervan, Simon J., Liliana L. Bove, and Lester W. Johnson (2009), "Reciprocity as a Key Stabilizing Norm of Interpersonal Marketing Relationships: Scale Development and Validation," *Industrial Marketing Management*, 38 (1), 60-70.

Pontari, Beth A., Barry R. Schlenker, and Andrew N. Christopher (2002), "Excuses and Character: Identifying the Problematic Aspects of Excuses," *Journal of Social and Clinical Psychology*, 21 (5), 497-516.

Prelec, Drazen, and George Loewenstein (1998), "The Red and the Black: Mental Accounting of Savings and Debt," *Marketing Science*, 17 (1), 4-28.

Raghubir, Priya, and Joydeep Srivastava (2008), "Monopoly Money: The Effect of Payment Coupling and Form on Spending Behavior," *Journal of Experimental Psychology: Applied*, 14 (3), 213-225.

Read, Daniel, and George Loewenstein (1995), "Diversification Bias: Explaining the Discrepancy in Variety Seeking Between Combined and Separated Choices," *Journal of Experimental Psychology: Applied*, 1 (1), 34-49.

Read, Daniel, George Loewenstein, and Matthew Rabin (1999), "Choice Bracketing," *Journal of*

Risk and Uncertainty, 19 (1), 171-97.

Reed, Americus, Karl Aquino, and Eric Levy (2007), "Moral Identity and Judgments of Charitable Behaviors," *Journal of Marketing*, 71 (1), 178-193.

Reis, Harry T. (1990), "The Role of Intimacy in Interpersonal Relations," *Journal of Social and Clinical Psychology*, 9 (1), 15-30.

Reis, Harry T., W. Andrew Collins, and Ellen Berscheid (2000), "The Relationship Context of Human Behavior and Development," *Psychological Bulletin*, 126 (6), 844-72.

Reis, Harry T., and Phillip Shaver (1988), "Intimacy as an Interpersonal Process," *Handbook of Personal Relationships*, 24 (3), 367-89.

Rempel, John K., John G. Holmes, and Mark P. Zanna (1985), "Trust in Close Relationships," *Journal of Personality and Social Psychology*, 49 (1), 95-112.

Rheault, Magali (2011), *Lack of Money Tops List of Americans' Financial Worries*. http://news.gallup.com/poll/148625/lack-money-tops-list-americans-financial-worries.aspx, (Retrieved April 2, 2018).

Robinson, Stefanie Rosen, Caglar Irmak, and Satish Jayachandran (2012), "Choice of Cause in Cause-Related Marketing," *Journal of Marketing*, 76 (4), 126-39.

Rotter, Julian B. (1966), "Generalized Expectancies for Internal Versus External Control of Reinforcement," *Psychological Monographs: General and Applied*, 80 (1), 1-28.

Salisbury, Linda C. (2014), "Minimum Payment Warnings and Information Disclosure Effects on Consumer Debt Repayment Decisions," *Journal of Public Policy & Marketing*, 33 (1), 49-64.

Schlenker, Barry R. (1997), "Personal Responsibility: Applications of the Triangle Model," *Research in Organizational Behavior*, 19 (1), 241-301.

Schlenker, Barry R., Beth A. Pontari, and Andrew N. Christopher (2001), "Excuses and Character: Personal and Social Implications of Excuses," *Personality and Social Psychology Review*, 5 (1), 15-32.

Schlenker, Barry R., Michael F. Weigold, and Kevin Doherty (1991), "Coping with Accountability: Self-Identification and Evaluative Reckonings," In C. R. Snyder and D. R. Forsyth (Eds.), *Pergamon General Psychology Series, Vol. 162. Handbook of Social and Clinical Psychology: The Health Perspective* (96-115). Elmsford, New York: Pergamon Press.

Schlenker, Barry R., Thomas W. Britt, John Pennington, Rodolfo Murphy, and Kevin Doherty (1994), "The Triangle Model of Responsibility," *Psychological Review*, 101 (4), 632-52.

Schroeder, Juliana, Michael Kardas, and Nicholas Epley (2017), "The Humanizing Voice: Speech Reveals, and Text Conceals, a More Thoughtful Mind in the Midst of Disagreement," *Psychological Science*, 28 (12), 1745-62.

Schunk, Dale H. (1982), "Effects of Effort Attributional Feedback on Children's Perceived Self-Efficacy and Achievement," *Journal of Educational Psychology*, 74 (4), 548-56.

Sedikides, Constantine, W. Keith Campbell, Gleen D. Reader, and Andrew J. Elliot (1999), "The Relationship Closeness Induction Task," *Representative Research in Social Psychology*, 23 (1), 1-4.

Sen, Sankar, and Chitra Bhanu Bhattacharya (2001), "Does Doing Good Always Lead to Doing Better?," *Journal of Marketing Research,* 38 (2), 225-43.

Sen, Sankar, Chitra Bhanu Bhattacharya, and Daniel Korschun (2006), "The Role of Corporate Social Responsibility in Strengthening Multiple Stakeholder Relationships: A Field Experiment," *Journal of the Academy of Marketing Science,* 34 (2), 158-66.

Shaddy, Franklin, and Anuj K. Shah (2018), "Deciding Who Gets What, Fairly," *Journal of Consumer Research*, in press.

Shah, Avni M., Noah Eisenkraft, James R. Bettman, and Tanya L. Chartrand (2016), "Paper or Plastic? How We Pay Influences Post-Transaction Connection," *Journal of Consumer Research*, 42 (5), 669-87.

Sheeran, Paschal, and Sheina Orbell (1999), "Implementation Intentions and Repeated Behavior: Augmenting the Predictive Validity of the Theory of Planned Behavior," *European Journal of Social Psychology*, 29 (23), 349-69.

Shimojo, Shinsuke, Claudiu Simion, Eiko Shimojo, and Christian Scheier (2003), "Gaze Bias both Reflects and Influences Preference," *Nature Neuroscience*, 6, 1317-22.

Shiv, Baba, and Alexander Fedorikhin (1999), "Heart and Mind in Conflict: The Interplay of Affect and Cognition in Consumer Decision Making," *Journal of Consumer Research*, 26 (3), 278-92.

Simonson, Itamar (2005), "In Defense of Consciousness: The Role of Conscious and Unconscious Inputs in Consumer Choice," *Journal of Consumer Psychology*, 15 (3), 211-17.

Singh, Sangeeta, Lene Kristensen, and Erika Villasenor (2009), "Overcoming Skepticism Towards Cause Related Claims: The Case of Norway," *International Marketing Review*, 26 (3), 312-26.

Snyder, Charles R., and Raymond L. Higgins (1988), "Excuses: Their Effective Role in the Negotiation of Reality," *Psychological Bulletin*, 104 (1), 23-35.

Soman, Dilip (2001), "Effects of Payment Mechanism on Spending Behavior: The Role of Rehearsal and Immediacy of Payments," *Journal of Consumer Research*, 27 (4), 460-74.

Spencer, Steven J., Mark P. Zanna, and Geoffrey T. Fong (2005), "Establishing a Causal Chain: Why Experiments are Often More Effective than Mediational Analyses in Examining Psychological Processes," *Journal of Personality and Social Psychology*, 89 (6), 845-51.

Spiller, Stephen A., Gavan J. Fitzsimons, John G. Lynch Jr., and Gary H. McClelland (2013), "Spotlights, Floodlights, and the Magic Number Zero: Simple Effects Tests in Moderated Regression," *Journal of Marketing Research*, 50 (2), 277-88.

Srivastava, Joydeep, and Priya Raghubir (2002), "Debiasing Using Decomposition: The Case of Memory-Based Credit Card Expense Estimates," *Journal of Consumer Psychology*, 12 (3), 253-64.

Stewart, Neil (2009), "The Cost of Anchoring on Credit-Card Minimum Repayments," *Psychological Science*, 20 (1), 39-41.

Thaler, Richard (1980), "Toward a Positive Theory of Consumer Choice," *Journal of Economic Behavior and Organization*, 1 (1), 39-60.

Thaler, Richard (1985), "Mental Accounting and Consumer Choice," *Marketing Science*, 4 (3), 199-214.

Thaler, Richard (1999), "Mental Accounting Matters," *Journal of Behavioral Decision Making*, 12 (3), 183-206.

Tice, Dianne M., Roy F. Baumeister, Dikla Shmueli, and Mark Muraven (2007), "Restoring the Self: Positive Affect Helps Improve Self-Regulation Following Ego Depletion," *Journal of Experimental Social Psychology*, 43 (3), 379-84.

Twenge, Jean M., Kathleen R. Catanese, and Roy F. Baumeister (2003), "Social Exclusion and the Deconstructed State: Time Perception, Meaninglessness, Lethargy, Lack of Emotion, and Self-Awareness," *Journal of Personality and Social Psychology*, 85 (3), 409-23.

Tversky, Amos, and Eldar Shafir (1992), "The Disjunction Effect in Choice Under Uncertainty," *Psychological Science*, 3 (5), 305-9.

Van Boven, Leaf, and Thomas Gilovich (2003), "To Do or To Have? That is the Question," *Journal of Personality and Social Psychology*, 85 (6), 1193-1202.

Varadarajan, P. Rajan, and Anil Menon (1988), "Cause-Related Marketing: A Coalignment of Marketing Strategy and Corporate Philanthropy," *Journal of Marketing*, 52 (3), 58-74.

Vohs, Kathleen, Nicole L. Mead, and Miranda R. Goode (2006), "The Psychological Consequences of Money," *Science*, 314 (5802), 1154-6.

Vohs, Kathleen, Nicole L. Mead, and Miranda R. Goode (2008), "Merely Activating the Concept of Money Changes Personal and Interpersonal Behavior," *Current Directions in Psychological Science*, 17 (3), 208-12.

Walker, Matthew, and Aubrey Kent (2009), "Do Fans Care? Assessing the Influence of Corporate Social Responsibility on Consumer Attitudes in the Sport Industry," *Journal of Sport Management*, 23 (6), 743-69.

Webb, Deborah J., and Lois A. Mohr (1998), "A Typology of Consumer Responses to Cause-Related Marketing. From Skeptics to Socially Concerned," *Journal of Public Policy & Marketing*, 17 (2), 226-38.

Weiner, Bernard (1985), "An Attributional Theory of Achievement, Motivation and Emotion," *Psychological Review*, 92 (4), 548-73.

Weiner, Bernard, Alice Figueroa-Munioz, and Craig Kakihara (1991), "The Goals of Excuses and Communication Strategies Related to Causal Perceptions," *Personality and Social Psychology Bulletin*, 17 (1), 4-13.

Weiner, Bernard, James Amirkhan, Valerie S. Folkers, and Julie A. Verette (1987), "An

Attributional Analysis of Excuse Giving: Studies on a Naïve Theory of Emotion," *Journal of Personality and Social Psychology*, 52 (2), 316-24.

Wheeless, Lawrence R. (1977), "The Measurement of Trust and its Relationship to Self-Disclosure," *Human Communication Research*, 3 (3), 250-7.

Whillans, Ashley V., and Elizabeth W. Dunn (2015), "Thinking about Time as Money Decreases Environmental Behavior," *Organizational Behavior and Human Decision Processes*, 127 (1), 44-52.

White, Robert W. (1959), "Motivation Reconsidered: The Concept of Competence," *Psychological Review*, 66 (5), 297-333.

Willner, Paul, and Mark Smith (2008), "Attribution Theory Applied to Helping Behavior Towards People with Intellectual Disabilities Who Challenge," *Journal of Applied Research in Intellectual Disabilities*, 21 (2), 150-55.

Wood, Robert E., and Terence R. Mitchell (1981), "Manager Behavior in a Social Context: The Impact of Impression Management on Attributions and Disciplinary Actions," *Organizational Behavior and Human Performance*, 28 (3), 356-78.

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 (1), 23-37.

Zhang, Yan, and Leilei Gao (2016), "Wanting Ever More: Acquisition Procedure Motivates Continued Reward Acquisition," *Journal of Consumer Research*, 43 (2), 230-45.

Zhou, Xinyue, Kathleen D. Vohs, and Roy F. Baumeister (2009), "The Symbolic Power of Money: Reminders of Money Alter Social Distress and Physical Pain," *Psychological Science*, 20 (6), 700-06.

Zucker, Gail Sahar, and Bernard Weiner (1993), "Conservatism and Perceptions of Poverty: An Attributional Analysis," *Journal of Applied Social Psychology*, 23 (12), 925-43.