

THE HAPPINESS OF GIVING: THE TIME-ASK EFFECT

Wendy Liu and Jennifer Aaker

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Wendy Liu is Assistant Professor of Marketing at UCLA Anderson School of Management, 110 Westwood Plaza, Los Angeles, CA 90095 (wendy.liu@anderson.ucla.edu). Jennifer Aaker is the Xerox Distinguished Professor of Knowledge at the University of California at Berkeley, Haas School of Business (jaaker@haas.berkeley.edu). Thanks to Nicole Starczak and Robin Avnet for their help with data collection, Cassie Therault for her insight, and the team at HopeLab for their remarkable organization.

This research examines how a focus on time versus money can lead to two distinct mindsets which impact consumers' willingness to donate to charitable causes. The results of three experiments, conducted both in the lab and in the field, reveal that asking individuals to think about "how much time they would like to donate" (versus "how much money they would like to donate") to a charity increases the amount that they ultimately donate to the charity. Fueling this effect are differential mindsets activated: Asking people for their time (vs. money) makes salient the link between charitable giving and personal happiness, thereby increasing actual donations. Implications for the research on time, money and emotional well-being are discussed.

Imagine you are working for a non-profit organization and have been charged with organizing a fundraiser to elicit contributions from potential donors. As a first step, you run a simple survey to gauge people's interest in contributing. You create two versions of the survey. In one version, potential donors are first asked about their interest in making a monetary donation (a "money-ask"), followed by a question about their interest to help through volunteering their time (a "time-ask"). In the second version, you ask the same questions, but in the opposite order. After the fundraiser takes place, you look at the actual contributions. Which group of individuals do you think donated more—those who were asked about donating their money first, or those who were asked about donating their time first?

Indeed research on time and money, two fundamental resources in people's lives, has enjoyed much resonance lately—particularly in the domain of decision making, the psychology of discount rates, and the valuation of future possibilities (e.g., Loewenstein 1987; Malkoc and Zauberman 2006; Zauberman and Lynch 2005). However, scant research has examined the downstream effects of asking individuals a simple question related to time or money such as, "How much time are you willing to donate?" or "How much money are you willing to donate?" What types of mindsets are activated when one thinks about time versus money? How might a shift in mindset impact an individual's willingness to give? Does activating time versus money lead to a differential awareness of what makes an individual happy?

These questions are fundamentally important in the context of charitable giving, which is a \$300 billion industry in the United States (Giving USA Foundation 2007). In fact, non-profit organizations argue that encouraging donations is their single most important

challenge (West 2004). Exacerbating this concern, the number of American people volunteering has been steadily shrinking over the last four years (United States Labor Department Bureau of Labor Statistics 2007). Interestingly, research assessing why people get involved in volunteering time and contributing money to charitable causes found the number one reason is “because they were asked by someone” (Independent Sector 1999), thereby suggesting that the *way* in which people are asked might well be of critical importance. Further, understanding donation questions is important for consumer welfare. Mounting research suggests that consumers consume with the goal of becoming happy or getting happier, but rarely attain that goal through their purchase behavior (Lybomirsky 2007; Kasser and Kanner 2004). However, giving has been tied to reported states of true happiness (Harbaugh, Mayr and Burghart 2007; McGowen 2006; Thoits and Hewitt 2001), which raises the question: why don’t more individuals give?

This research attempts to tackle these questions through a series of experiments that examine the ability (a) for non-profits to cultivate charitable contributions and (b) for consumers to feel happy about giving. Building on the research on the “question-behavior effect” (e.g., Fitzsimons and Morwitz 1996; Morwitz, Johnson and Schmittlein 1993; Schwarz 1999; Sherman 1980; Spangenberg 1997; Sprott et al. 2006), we suggest that asking people a simple question about their intent to donate significantly influences subsequent charitable giving. However, rather than focusing on whether a question is posed (as in the question-behavior research), we focus on the content of the question—whether the question pertains to time or money. The results of three experiments show a consistent “time-ask effect,” whereby asking people whether they would like to volunteer time to a charity (versus asking whether they would like to donate money, or not asking

any intent question at all) leads to higher levels of actual contributions to that focal charity.

Further, we explore why this effect occurs. The underlying mechanism appears to be linked to the mindsets activated by the mention of time versus money. Specifically, people's representation of time is more closely associated with concepts of emotional meaning (Carstensen, Isaacowitz, and Charles 1999; Van Boven and Gilovich 2003). In contrast, the representation of money is more closely associated with concepts of economic utility (Loewenstein, Reid and Baumeister 2003; Vohs, Mead and Goode 2006). Consequently, answering a question about one's intention to volunteer time makes salient the emotional significance of the event, whereby people view charity as a means towards happiness. This mindset in turn leads to a more positive inclination towards giving to charity and hence an increase in actual contributions. Next, we draw on research on the psychology of time and money, as well as the question-behavior effect, to develop our conceptual model and hypotheses.

THE PSYCHOLOGY OF TIME AND MONEY

The impact of time and temporal perspective on consumer decision making has received much attention lately. A small but growing subset of this research has focused on time as a resource—comparing it explicitly to money in order to examine how the two resources differentially impact perceptions and behavior (e.g., Leclerc, Schmitt and Dube 1995). Although both resources are related and to a certain extent exchangeable (DeVoe and Pfeffer forthcoming), researchers have begun to explore exactly how they differ and

what those differences imply for consumer behavior. For example, people project greater slack in time (relative to money), thereby leading to differential discounts in their future outlay of time versus money (Zauberman and Lynch 2005). Further, time and money differ in their value (whereby the value of time is more ambiguous than one's value of money), leading to more flexible justifications of expenditures of time than money (Okada and Hoch 2004). Time and money also differ in their perceived appropriateness as resources for donation. For instance, people prefer to donate time (over money) to charities when their self is highly invested in a cause (Reed, Aquino and Levy 2007a; 2007b).

The current research hints at another difference between time and money—namely, the types of consumer mindsets that are activated by time-asks versus money-asks. Thus, if one merely asks a question involving time versus money donation intent, might differences in subsequent behavior result?

The Effect of Measuring Intentions

Consumers are often asked about their intentions to engage in a certain action, such as purchasing a new car, getting a medical check up, or donating to charity. When asked to answer such a question, people often do not retrieve a pre-existing intention, but instead construct an answer to that question (Feldman and Lynch 1988). Further, the process of providing an answer may in turn lead to changes in one's actual behavior. An influential body of research shows that asking people questions about their intentions for an action can dramatically change the likelihood that people will later perform the action

(e.g., Morwitz et al 1993; Schwarz 1999; Sherman 1980; Sprott et al. 2006). For example, consumers who received (vs. did not receive) a survey asking them about their automobile purchase intentions were more likely to purchase a new automobile in the subsequent six months (Fitzsimons and Morwitz 1996). Similarly, students who were asked (vs. not asked) about their likelihood of flossing their teeth in the next two weeks reported greater instances of teeth flossing in that time period (Levav and Fitzsimons 2006).

These effects are driven at least in part by increased accessibility of relevant attitudes and cognitions. For example, measuring purchase intent increases the accessibility of highly salient brands within a category (Nedungadi 1990). Since attitudes toward those salient brands are often positive (e.g., a well-loved previously-owned car or a large market-share brand), approach-oriented behavior toward that focal brand results (Morwitz and Fitzsimons 2004). In addition, measuring purchase intent often leads to mental simulation processes, thereby further fueling the question-behavior effect (Levav and Fitzsimons 2006).

These underlying mechanisms illuminate the moderating conditions of the basic question-behavior effect. In particular, the nature of the constructs being activated by the intention question plays a role in determining the size and direction of the effect. For example, even though an intention question increases behavior accessibility by prompting people to mentally simulate the behavior, the effect is attenuated when the behavior is unfamiliar such that people cannot perform the simulation (Levav and Fitzsimons 2006). Moreover, the intention question only enhances behavior if it activates a positive attitude

toward the object. When one's attitude is negative, the question-behavior effect is reversed (Morwitz et al 1993; Sherman 1980).

Building on this research stream, we propose a distinct source of influence: the types of beliefs and goals that are activated when the action is considered. In particular, we examine whether posing questions about time versus money donations fosters two mindsets, one that leads to the consideration of feelings and emotional meaning derived from an action and another that leads to the consideration of economic utility. We argue that these distinct mindsets impact charitable giving in very different ways.

Time and Money Activate Different Beliefs and Goals

A fundamental theory in social cognition is that people represent their knowledge and concepts in associative networks (Anderson and Bower 1973). When a concept is activated, associated constructs are also activated. Thus one outcome of asking questions is activating and increasing the accessibility of related concepts, thereby augmenting the probability that they will be used in a subsequent judgment or behavior. To illustrate, in a classic example of category priming (Srull and Wyer 1979), participants were asked to unscrambled sentences using words related to hostility (e.g., "break his leg"). Later in the experiment, participants were given a behavioral vignette describing a character and then asked to form an impression of him. Those who unscrambled more hostility-related words judged the character as more hostile than those who unscrambled fewer hostility words. In addition to the activation of concepts, priming can activate goals. For example, when primed with the concept of "mother," the goal of achievement (e.g., to make

parents proud) is activated, resulting in greater motivation to do well in a difficult task (Fitzsimons and Bargh 2003). Further, when a goal is activated, people are more likely to interpret ambiguous information in light of the goal (Bargh and Chartrand 2000).

Following the theory of construct activation and accessibility, we propose that asking people to consider their intention to spend time versus money in a certain way activates discrete goals and increases the salience of certain beliefs. We argue that thinking about time activates goals of emotional well-being and beliefs involving personal happiness. In contrast, thinking about money suppresses such emotional goals and instead activates goals of economic utility and beliefs about attainment of such goals.

These two mindsets align with those described by bi-modal models of cognitive function (emotional vs. rational; for a review see Pham forthcoming), empathy states (“hot” vs. “cold;” Van Boven and Loewenstein 2003), and modes of decision making (guided by heart vs. mind; Shiv and Fedorikhin 1999). These mindsets shift over time, and across individuals and situations. For example, as people age, they increasingly adopt a more emotional mindset and are guided by socio-emotional goals (e.g., positive social interactions), whereas younger adults tend to be guided by more cognitive-based goals (e.g., learning; Carstensen, Isaacovich, and Charles 1999). When people are given statistical information about victims, they tend to revert to the cold or rational mindset, thereby reducing the amount of contribution to those victims (Small, Loewenstein and Slovic 2007). In the current research, we argue that another way in which these distinct mindsets can be induced is by asking people to consider their use of time versus money.

The idea that the consideration of time, particularly how to spend one’s time, may activate an emotional mindset is born from three sets of findings. First, the consumption

of time involves, by definition, an experience. Both real and imagined, experiences are accompanied by feelings and emotions (Schwarz and Clore 1996). Thus, thoughts of spending time doing an activity naturally evoke feelings and often increase the motivation to attain positive emotions (e.g., “how do I feel about it?” Pham 1998). Second, recent research suggests that experiences (e.g., spending time doing an activity) are more directly associated with feeling happy than are non-experiential, material acquisitions (Van Boven and Gilovich 2003). That is, an experience, such as going to a show, creates greater happiness than does consuming a material product of similar economic value. Third, emerging research suggests that the salience of the concept of time in life can directly activate goals of emotional meaning (Liu and Aaker 2007). When a significant event in life occurs to a young adult (e.g., a cancer death of a close other), their own lifespan becomes more salient. As a result, they are more likely to pursue emotionally meaningful long-term oriented goals. Thus, the consideration of how one might spend his/her time is likely to activate a mindset in which the person focuses on emotional meaning and well-being.

In contrast, the consideration of how one might spend money should activate a very different type of goal. Money, as the most common form of currency for economic exchange, puts a quantifiable value to purchases and consumption. Consequently, thinking about money (relative to time) is likely to evoke a value maximizing goal (Vohs, Mead and Goode 2006), prompting people to think about value in a non-ambiguous manner. Indeed, when people invest money rather than time in a purchase, they demand unambiguous satisfaction from the consumption. In contrast, when time is invested, people are able to flexibly determine whether the consumption was worth the time

(Okada and Hoch 2004). Thus, money appears to activate a mindset that focuses on maximal, quantifiable utility.

Importantly, we argue that these distinct mindsets are likely to cause the act of giving to be viewed in different lights. With an emotional mindset, the person is more likely to see the implications of charitable giving in terms of its emotional meaning, that is, how giving is related to positive emotions and personal happiness. Recent research shows that volunteering makes one happy (McGowan 2006). In fact, it is even associated with lower mortality rates (Harris and Thoresen 2005). Nevertheless, people often “under-help”—perhaps, in part, because the idea of helping others as a means towards happiness may not always be salient (whereas more pressing, logistical concerns often loom larger; Trope and Liberman 2003). Yet when asked about the intention to volunteer time, the association between charitable contribution and emotional well-being is likely to become more salient because one’s emotional goals and concepts are activated (Magen 1996; Thoits and Hewitt 2001). This connection should result in a more positive inclination to actually contribute to charitable causes.

In contrast, measuring one’s intention to donate money will likely make people consider the implication of contributing to charity in light of a value maximizing goal. This assessment is likely to be unsatisfying, however, because the economic utility of giving money to a charity is relatively ambiguous. Even though a direct monetary sacrifice is incurred, the non-monetary benefits to the self (as well as the impact of the donation for the charitable cause) are difficult to assess. Therefore, the activation of value maximization mindset in the charity contribution context may in fact induce a less positive inclination towards giving and, in the end, lower levels of actual contribution.

In summary, we propose that asking people their intentions to donate time or money activates distinct mindsets. Thinking about spending time leads to an emotional mindset in which giving to charity is seen as a means towards emotional well-being and happiness, whereas thinking about spending money leads to a value maximizing mindset in which the link between happiness and giving is less accessible. Consequently, measuring intentions to give time can lead to a more positive inclination to donate (than not measuring such intentions). Conversely, measuring intentions to give money may lead to more disengagement from donating. Therefore, this research proposes the following hypotheses (depicted in figure 1):

- H1:** Making time-asks (vs. not making time-asks) increases subsequent amount of charitable contribution.
- H2:** Making money-asks (vs. not making money-asks) decreases subsequent amount of charitable contribution.

Insert figure 1 about here

EXPERIMENT 1:

MAKING “TIME-ASKS”: THE IMPACT OF ASKING FOR VOLUNTEERING INTENTIONS ON MONETARY PLEDGES

Overview and Design

The objective of experiment 1 was to examine whether simply asking a time intention question first before a donation request could foster an emotional mindset, thereby increasing the amount of donation (hypothesis 1). Thus, we first asked (vs. did not ask) people to consider volunteering time to a non-profit organization. Then we asked for their pledge to make a monetary contribution to that charity. We predict that the amount of money people would pledge to donate would be higher when time-ask was first considered than if no such question preceded the monetary pledge. Thus, experiment 1 utilized a single-factor design where the presence of a time-ask was manipulated (time-ask: present vs. absent), and where monetary pledge was the key dependent variable.

Procedure

The participants were ordinary consumers from all over the United States ($N = 199$; mean age = 33; 29% male), recruited for \$2 to complete an online survey administered by researchers at a large west-coast university for academic purposes. Participants read, “Lung cancer is the leading cancer killer in both men and women in the United States. The American Lung Cancer Foundation’s mission is to promote public awareness, policy making, and medical research towards preventing lung cancer.” They were then told that the foundation was having a fundraising event. Randomly-assigned, half of the participants were asked, “How much time would you like to donate to the American Lung Cancer Foundation?” (time-ask: present). The other participants were not asked the volunteering intent question (time-ask: absent).

Next, both groups were asked, “How much money would you donate to the American Lung Cancer Foundation?” Thus, the dependent variable was the amount of money people pledged to donate. Ancillary questions followed, including individual differences in the monetary valuation of time, scarceness of time and money, as well as demographic variables. Finally, participants were thanked and dismissed.

Results and Discussion

A one-way ANCOVA was conducted on the amount of money people pledged to donate. Covariates included gender and age; neither showed significant main or interactive effects (F 's < 1). Indeed, the only significant result was a main effect of time-ask ($F(1, 195) = 4.38, p = .04$). When intentions to donate time were not asked before the monetary pledge, the average level of donation was \$24.46. However, when intentions to donate time were asked before the monetary pledge, this amount increased to \$36.44, thereby supporting the time-ask effect (hypothesis 1).

However, although an emotional mindset and the connection between charitable giving and personal happiness is hypothesized to underlie the time-ask effect, alternative explanations also exist. One explanation for the time-ask effect may be guilt-based. That is, many people may have opted out of volunteering time; and after declining to volunteer, guilt ensued—thereby fueling a desire to donate more money to reduce this guilt (Strahilevitz and Myers 1998). If this were the case, there should be a negative correlation between the stated amount of volunteering and monetary donation. In

particular, those who stated zero volunteering should donate more money compared to those who offered to volunteer.

To examine this possibility, we first assessed the average amount of time people were willing to volunteer ($m = 5.82$ hours). Interestingly, there was a significant *positive* correlation between the amount of time and money donations ($r = .43, p < .001$). Further, those who stated zero volunteering on average donated \$19.75. In stark contrast, those who were willing to volunteer on average donated \$45.81 ($F(1, 111) = 7.34, p < .01$). These results cast doubt on the guilt explanation. Indeed, quite the opposite: if a person is more willing to give in one mode—they are also more willing to give in the other.

Another potential explanation for the result may be made based on anchoring on a specific monetary value. Specifically, a “value anchoring” explanation suggests that measuring time first may simply anchor people on a higher amount of contribution. In this study, we measured people’s monetary valuation of time (“How much is an hour worth to you?”). On average, people valued their time at \$28/hour (*excluding four outliers whose hour of time was priceless). Thus, the total economic value of pledged volunteering was substantially higher ($\$27 \times 5.82 = \157) than the pledged monetary donation of \$36.44. If people become anchored on such a high value, they may be more likely to give a higher amount in the subsequent response to the monetary donation request. However, the strength of this explanation is attenuated by two observations. First, the value of time question is only asked after the donation question. Thus, it is unclear whether people would automatically make such a value conversion (DeVoe and Pfeffer forthcoming), or if they considered the magnitude of each type of contribution separately. Second, if value anchoring was operating, one should observe a positive

correlation between time valuation and money donated. However, there was no correlation between time valuation and donation amount ($r = .14, p = .13$). On the other hand, there was a correlation between hours pledged and amount donated, suggesting the connection between volunteering and monetary donation is a more qualitative feeling rather than value correspondence. Nevertheless, to abate the influence of this potential value anchoring explanation, we use a more qualitative measure of volunteering intention in experiment 2.

Finally, one interesting question arises in light of the high willingness to volunteer: why would people pledge a high level of help (> 5 hours) when asked about time contribution but appear relatively miserly—\$36—when asked for donations? One possibility might be that time is a less constrained resource for people relative to money. Thus, people are more able to offer time. However, when we looked at the scarcity of money and time for the participants (“How scarce is money to you?” and “How scarce is time to you?” where 1 = Not at all; 7 = Very much), time and money were perceived to be equally scarce ($M_{\text{money}} = 4.77, M_{\text{time}} = 4.80, t(198) = -.21$). Therefore, relative scarcity may not readily explain the higher level of generosity associated with volunteering. Further, although scarcity of money is negatively correlated with donation (a result consistent with intuition; $r = -.26, p = .005$), and people who perceived money as scarcer than time donated less than those who perceived time as scarcer ($M_{\text{money-scarcer}} = \$22, M_{\text{time-scarcer}} = \$49, F(1, 195) = 19.01, p < .005$), scarcity of time was uncorrelated with volunteering amount in the time-ask condition ($r = .01, p = .93$). In other words, when money is scarce, people donate less. However, how much time people pledge to volunteer

is less associated with the availability of this resource. This set of findings suggests that time-asks activates a qualitatively different mindset compared to money-asks.

Thus, experiment 1 provided empirical evidence for the time-ask effect, whereby a question about donating time to a charity increased the subsequent monetary donation to the charity. Experiment 2 was conducted to provide convergent support and to test the time-ask effect in a more conservative set of conditions. First, we move away from the quantitative measure of volunteering (“How much time would you like to donate?”), and instead use an attitudinal measure of volunteering intentions (“How interested are you in volunteering for HopeLab?”). By doing so, we further blunt the possibility of value conversion between time and money, and test whether the mere consideration of volunteering (without an amount attached to it) may change people’s level of generosity. Further, we insert a temporal gap between time-ask and actual donation request (rather than the seamless move from the time-ask manipulation to donation request as in experiment 1). Doing so reduces experimental demand and provides evidence for the endurance of the effect over a certain period of time, as suggested by previous research on the question-behavior effects (e.g., Fitzsimons and Morwitz 1996).

Second, because the total number of questions asked differed across conditions in experiment 1, the results were left vulnerable to experimental confounds. For example, participants may have felt compelled to increase their donation levels with each question. Further, the number of questions alone may have increased participants’ involvement with the survey resulting in more positive responses. Therefore, in the next study, we equate the number of questions across conditions by measuring both intent to give money and intent to give time. We simply alter the order of the “time-ask” and “money-ask”

questions before the request for actual contribution. Asking both types of questions also addresses a concern in experiment 1 whereby the time-ask effect may have been affected by the mismatch between the intent question (donating time) and the behavior (donating money).

Third, to enhance realism and external validity, we study charitable giving in a field setting, and observe real helping behavior in two domains: actual monetary donations and actual time donations (tracked over one month).

A final objective of experiment 2 was to empirically examine both hypothesis 1 and 2. That is, although experiment 1 examined the effect of measuring time intention (hypothesis 1), it did not address the effect of measuring intention for monetary donations on subsequent donation behavior (hypothesis 2). Thus we compare both types of “asks” to a control condition in experiment 2.

EXPERIMENT 2: THE IMPACT OF “TIME-ASKS” VERSUS “MONEY-ASKS” ON ACTUAL DONATIONS

Overview and Design

In this study, we examine the case of measuring both time and monetary donation intentions, but alternate the order of the questions. The key predictions concerned contrasts among three conditions: time-ask-first (where time donation intent question was posed first), money-ask-first (where money donation intent question was posed first), and control (where no intent question was posed). We compared the amount of subsequent

actual donations among these three conditions. When volunteering intent was asked first, we proposed that an emotional mindset would be activated whereby the connection between charitable giving and personal happiness would become more salient, increasing the amount of actual donations. On the other hand, when monetary donation intent was asked first, an emotional mindset should not be activated, and even potentially suppressed by a value maximizing goal. Therefore, the relationship between giving to charity and happiness would not be salient to the individual. Instead, the ambiguity in assessing the utility implications of charitable contributions would likely reduce one's inclination to give. If true, actual donations at a later time would be lowest in the money-ask-first condition, followed by the control, and then followed by the time-ask-first condition.

Of note, although the time-ask-first and money-ask-first conditions contained both a donation and a volunteering intention question, we believed the precedence of the first question would have a dominating effect in activating the appropriate mindset for considering the context, thus overpowering the subsequent question. This conjecture is supported by previous research showing that in generating a series of thoughts, the first thought generated often interferes with the person's ability to generate other thoughts (Hoch 1984). Therefore, the question order manipulation set the stage for a relatively conservative test of hypotheses 1 and 2.

Procedure

Participants ($N = 193$; mean age = 22; 58% male) were undergraduate students at a large west-coast university, participating in a purportedly 60-minute marketing research

study. To create the stimuli for experiment 2, we worked with the non-profit organization, HopeLab (www.hopelab.org), which develops innovative social technologies to improve the quality of life for children with serious chronic illnesses (e.g., Re-Mission video game), in conjunction with their fundraising efforts on college campuses. Thus, a research facilitator, representing the HopeLab organization, was waiting outside a room where the study was taking place. When students left the room (on average with 20-30 minutes to spare), the facilitator approached them individually to see if they would be willing to participate in another 30-minute study in which they would receive up to \$10 for their participation. Response rate was high; two participants declined.

First, participants read a one-page background introduction about HopeLab, followed immediately by the intention question manipulation (see appendix). In the time-ask-first condition, randomly-assigned participants were asked to indicate (a) “How interested are you in volunteering for HopeLab?” and (b) “How interested are you in making a donation to HopeLab?” (1 = Not at all; 7 = Very much). The questions were reversed in the money-ask-first condition. No questions were asked in the third condition (control). Next, all three groups were asked questions regarding their impressions of HopeLab, followed by 20 minutes of unrelated filler questions.

When finished, participants handed the questionnaire to the facilitator who was standing next to a box entitled, “HopeLab Donations.” The facilitator paid each participant with ten \$1 bills. Although the facilitator did not suggest that the participants make any donation, the box was in public view. A secondary researcher, collecting the questionnaires, gave the participants a receipt on which participants had to write down

the total received (i.e., net of any contributions) for reimbursement purposes. This receipt served as the main dependent variable assessing actual donations.

Finally, each participant was given a leave-behind flyer entitled, “Volunteer for HopeLab.” It read, “HopeLab is partnering with Pledge N’ Play, a digital event marketing program, to sponsor an on-line fundraising event. We are interested in marketing this fundraising event to local college and high school students. In particular, we need volunteers to help us publicize and promote this fundraiser event on the campus. Would you like to volunteer for this effort? ___ Yes ___ No, thanks. To begin volunteering, or for more information, please include your email _____. If you have any questions, please email Robin Avant ravant@hopelab.org.”

The following week, the fundraising organizer at HopeLab contacted all participants who left their email and helped monitor the number of hours these volunteers actually worked for HopeLab. Thus, in addition to the observation of actual monetary donations made within the survey session, the actual number of hours people worked for HopeLab over the course of one month was monitored.

Results

To begin, a one-way ANCOVA was run on the amount of money donated to HopeLab; gender and age were included as covariates. Although there was a significant effect of age ($F(1, 188) = 9.24, p = .003$; whereby older participants donated more), there was no effect of gender. More importantly, there was a main effect of question order ($F(2, 188) = 8.33, p < .001$). Planned contrasts showed that, as predicted, the average

level of donation was higher for participants in the time-ask-first condition compared to the control condition ($M_{\text{time-ask-first}} = \5.85 , $M_{\text{control}} = \$4.42$, $t(190) = 2.02$, $p = .04$), and compared to the money-ask-first condition ($M_{\text{money-ask-first}} = \3.07 , $t(190) = 4.07$, $p < .001$). Further, donations in the money-ask-first condition were significantly lower than in the control condition ($t(190) = -1.97$, $p = .05$).

Next, we examined whether and how much participants volunteered for HopeLab. In the time-ask-first condition, 14% of the participants indicated they would volunteer for HopeLab and wrote down their email to be contacted, compared to 3% in the money-ask-first condition and 3% in the control condition. A binary logistic regression with age and gender as covariates revealed a significant main effect of the question order manipulation ($Wald(2) = 7.46$, $p = .02$). The differences between time-ask-first and control conditions, and between time-ask-first and money-ask-first conditions, were both significant (with control as reference category, $B = 1.70$, $Wald(1) = 4.12$, $p = .04$; with money-ask-first as reference category, $B = 1.76$, $Wald(1) = 4.78$, $p = .03$). On the other hand, the difference between money-ask-first and control was not significant ($Wald < 1$).

To examine actual hours donated, the head of fundraising at HopeLab contacted all of those who provided email addresses. The results showed that about half the people in each condition who gave their email turned their commitment into action. Thus, 7.0% (4 people) of all participants in the time-ask-first condition actually volunteered time to HopeLab ($M = 6.5$ hours). In contrast, only 1.6% (1 person) for those in the money-ask-first condition, and 1.6% (1 person) for those in the control condition actually volunteered. Although the direction of the effect is consistent with the results on pre-commitments, the effect did not reach statistical significance ($Wald(2) = 3.04$, $p = .22$)

due to the small number of people who actually volunteered in the money-ask-first and control conditions.

Discussion

In a field experiment involving real contributions to a charity, participants who were first asked about their intention to volunteer for the charity subsequently donated more money to the charity compared to participants who were not first asked about volunteering intentions. On the other hand, people who were first asked about their intention to donate money donated less to the charity relative to those in the control condition where no questions were asked. These results suggest that, in a charitable giving context, asking intention to donate money versus time lead to very different behaviors. Further, the data is suggestive that the impact of measuring time intentions on actual volunteering behavior may endure for a period of time—in this case, after 20 minutes, and potentially up to a month.

Thus experiments 1 and 2 provided converging evidence for the effect of measuring time versus money intentions. However, the mechanism underlying the effect remains unclear. In experiment 3, we hoped to garner more explicit evidence of process, testing the hypothesized mechanism as well as alternative mechanisms. The focal mechanism was based on the premise that thoughts of time expenditure activate an emotional mindset. In turn, the connection between happiness and charitable giving is made salient, increasing the positive inclination towards contributing (“happiness of

giving” mechanism). In addition, we examine three alternative explanations that might also play a role in the time-ask effect.

First, even though the volunteering intention question was qualitative in nature in experiment 2 (thereby reducing the possibility of a “value anchoring” explanation), it is still possible that the concept of the economic value of one’s time was activated by the volunteering intention question. Thus, asking about time first may still activate a high anchor for donation level for those people whose value of time is greater than the range of monetary donation amounts considered. If this were the case, a person’s perceived value of his/her time may still play an important role in driving the effect.

A second possibility involves “increasing empathy.” Perhaps asking people to consider volunteering time leads to greater imagination of the people in need (Batson 1987) and hence empathy toward those people (Small et al. 2007). This stronger empathy may have lead to higher motivation to help.

Third, an “ease-of-representation” mechanism may underlie the results. Here, considering volunteering might lead to greater ease and vividness in imagining oneself helping HopeLab. People may translate this ease of representation into an implementation intention (Levav and Fitzsimons 2006), facilitating actual contributions. In experiment 3, we seek to disentangle these potential explanations from the proposed mechanism of “happiness of giving.”

EXPERIMENT 3: THE HAPPINESS OF GIVING

Overview and Design

The objective of experiment 3 was to provide further evidence for the time-ask effect and to shed more direct light on the mechanism(s) underlying the effect. Thus, we examined whether considering a time donation activated an emotional mindset and increased the salience of the positive emotional meaning of charitable giving. We also explored potential alternative explanations, namely value anchoring, increased empathy, and ease-of-representation. To this end, this experiment measured three potential mediators: beliefs about the tie between charitable giving and happiness, feelings of empathy, and increased ease and vividness of imagining oneself engaging in helping the charity. Further, the potential moderating role of the person's valuation of the worth of one's time was examined (per the value anchoring explanation).

Similar to experiment 2, this experiment focused on people's donations to HopeLab (www.hopelab.org), comparing two conditions: money-ask-first and time-ask-first. This study mirrored the protocol used in experiment 2 but with three changes. First, we wanted to reduce the chance that participants felt they received a "windfall" of 30 minutes—which may have fostered feelings of reciprocity when asked for intention to donate time (but not intention to donate money). Thus, participants were recruited to take part in a study that would take approximately 45 minutes, and the study indeed lasted 45 minutes.

Second, after the 20-minute filler task, participants were told that they could be a winner in a \$20 drawing, but that they could donate any part of this money to HopeLab in the event that they won. Participants were asked to write down how much of the \$20 they

would donate. This action was consequential because the transaction would take place for winners in the drawing (five participants won).

Finally, after the \$20 pledge was measured, a series of questions assessing the underlying process followed. All were recorded on a seven-point scale (1 = Not at all; 7 = Very much) and were posed in the following order: First, “How easily can you imagine the life of young people with chronic illnesses?” and “How much can you empathize with (i.e., understand and feel for) young people with chronic illnesses?” (combined to form an empathy index). Then, “How easily can you imagine yourself working for HopeLab?” and “How easily can you imagine yourself donating to HopeLab?” (combined to form an ease-of-representation index). Finally, for the belief in the association between charity and emotional meaning, participants were asked, “To what degree do you believe happiness is tied to volunteering?” and “To what degree do you believe happiness is tied to donating money?” These two items were not readily combined, allowing for the possibility that they may not cohere perfectly. Additionally participants were asked about their valuation of time, as in experiment 1: “How much is an hour of time worth to you?” Participants were debriefed and thanked.

Procedure

Participants ($N = 50$; mean age = 20; 32% male) were undergraduate students at a large western university, and paid \$10 to participate in a survey. The procedures were similar to that of experiment 2. Participants were presented with a one-page information sheet about the HopeLab organization, and then asked to indicate on seven-point scales

their intentions to donate and volunteer (“How interested are you in making a donation to HopeLab?” and “How interested are you in volunteering for HopeLab?”). As in experiment 2, the order in which the two questions were asked was counter-balanced.

Next, participants worked on unrelated filler tasks for 20 minutes. At the end of the session, they were unexpectedly asked to consider actually making a donation to HopeLab. Specifically, “In today’s session, five participants will be randomly selected to win a bonus payment of \$20. If you are chosen as a winner, you can donate all or part of the \$20 to HopeLab. If you are a winner, how much of the \$20 would you like to donate to HopeLab?” Participants were then told about how the payments would be processed so that they understood that their decision was consequential.

Next, we assessed the distinct processes that might underlie the basic effect (see above for items encapsulated in the empathy index, the ease-of-representation index, and the two belief-in-happiness items). Finally, for the financial value of time, participants were asked, “How much is one hour of your time worth? \$____.” Participants were thanked and debriefed.

Results

A one-way ANCOVA was run on the amount of money people would like to donate with question order as the independent factor. Gender and age were included as covariates but only gender showed a significant effect ($M_{\text{male}} = \$6.69$, $M_{\text{female}} = \$10.91$, $F(1, 46) = 4.61$, $p = .04$; $F < 1$ for age). Importantly, however, the ANCOVA also revealed a significant effect of question order ($F(1, 46) = 6.09$, $p = .02$). As predicted, the

average level of donation among participants was considerably higher in the time-ask-first condition than in the money-ask-first condition ($M_{\text{time-first}} = \11.50 , $M_{\text{money-first}} = \6.65).

To shed light on the process underlying this effect, we first explored the mechanism proposed to drive the difference: whether considering volunteering for charity leads to an activation of an emotional mindset, and the thought that helping with charity plays an important role in pursuing happiness. Thus, we examined people's response to the items, "To what degree do you believe happiness is tied to volunteering?" and "To what degree do you believe happiness is tied to donating money?" Although the two measures correlated significantly, the correlation did not warrant collapsing into a single index ($r = .43$, $p = .002$). Thus, separate analyses were conducted on these items.

An ANCOVA on happiness-volunteering belief with question order as the independent factor, and gender and age as covariates, showed significant effects of both gender ($F(1,45) = 5.96$, $p = .01$) and age ($F(1,45) = 4.08$, $p = .05$). More importantly, the analysis revealed a significant effect of question order ($F(1, 45) = 6.59$, $p = .01$). When volunteering intent was measured first, people reported greater belief in the relationship between volunteering and personal happiness ($M = 4.80$), compared to when monetary donation intent was measured first ($M = 3.89$). In addition, an ANCOVA with donation as the dependent variable, and question order, gender, age, and happiness-volunteering belief as independent variables, showed a significant effect of happiness-volunteering belief in predicting donation ($F(1, 44) = 7.17$, $p = .01$). Importantly, with the happiness-volunteering belief included in the model, the previously significant effect of question

order became insignificant ($F(1, 44) = 1.96, p = .17$). A Sobel test further demonstrated that the mediation by happiness-volunteering was significant ($z = -1.96, p = .05$).

Together these results suggest that the increased belief in happiness-volunteering relationship fully mediated the effect of intention question order on donation behavior (Baron and Kenny 1986). In other words, when time-ask was considered first, versus when money-ask was considered first, the tie between personal happiness and helping a charitable cause became more salient, leading to higher levels of actual helping behavior.

A similar analysis was conducted on the happiness-donation measure. The ANCOVA on the happiness-donation belief showed that the effect of question order did not reach significance ($M_{\text{time-first}} = \$3.43, M_{\text{money-first}} = \$2.85, F(1, 46) = 2.29, p = .14$). Further, an ANCOVA with donation as the dependent variable, and question order, gender, age, and happiness-donation belief as independent variables, yielded a significant effect of happiness-donation belief in predicting donation ($F(1, 45) = 7.37, p = .01$). However, the effect of question order remained significant despite being directionally weaker ($F(1, 45) = 3.92, p = .05$). A Sobel test showed the mediation of happiness-donation was not significant ($z = -1.35, p = .18$). These results suggest that the happiness-donation belief, although directionally similar to the happiness-volunteering belief, appears less affected by the emotional mindset created by thinking about volunteering. This difference is consistent with the proposed masking of an emotional mindset when determining monetary outlays. Nevertheless, even though thinking about volunteering did not impact the perceived tie between donation and happiness as strongly as it impacted the perceived tie between volunteering and happiness, this latter perception was strong

enough to generalize to other modes of helping (i.e., generalizing from volunteering to making a donation), resulting in higher levels of donations.

Thus, the “happiness of giving” mechanism appears to be empirically supported. However, also of interest were the additional process measures for the potential alternative explanations. To examine the value anchoring explanation, we examined the potential moderating role of participants’ perception of the value of their time. The results showed that, similar to experiment 1, people considered their time to be worth \$23, ranging from \$7 to \$100 (with one outlier of \$550 excluded from analysis). However, a linear regression shows that the perception of time worth was again not a significant predictor of donation amount in the time-ask-first condition ($t < 1$).

Next, separate ANCOVA’s were run with each process index as the dependent variable, question order as the independent variable, and gender and age as covariates. People’s level of empathy for the cause was similar in the time-ask-first and money-ask-first conditions (empathy index $r = .65$; $M_{\text{time-first}} = 4.18$, $M_{\text{money-first}} = 3.93$, $F < 1$). Further, when we added the empathy index to the original model, with donation as the dependent variable, question order as independent factor, and gender and age as covariates, the results revealed that although question order remained a significant predictor of donation amount (question order: $F(1, 45) = 5.69$, $p = .02$), the effect of empathy was not significant ($F(1, 45) = 1.11$, $p = .30$). A Sobel test confirmed the mediation was not significant ($z = -.13$, $p = .90$).

Similarly, the ease of imagining oneself contributing to HopeLab differed only marginally across conditions ($M_{\text{time-first}} = 2.93$, $M_{\text{money-first}} = 2.33$, $F(1, 46) = 2.88$, $p = .10$). Further, when this ease-of-representation index ($r = .81$) was added to the original

ANCOVA model, the results showed that although ease-of-representation had a significant effect on donations ($F(1, 45) = 3.91, p = .05$), question order also remained significant ($F(1, 45) = 3.95, p = .05$). A Sobel test further confirmed the mediation of ease-of-representation was not significant ($z = -1.26, p = .20$), casting doubt on ease-of-representation as an underlying driver of the effect.

Finally, the non-significant results of these two measures (compared to the significant mediation of the happiness-volunteer measure) did not appear to stem from lack of variability in these variables (standard deviations: $ss_{\text{empathy}} = 1.73, ss_{\text{ease-of-representation}} = 1.43$, compared to $ss_{\text{happiness-volunteering}} = 1.67, ss_{\text{happiness-donation}} = 1.58$).

Discussion

Experiment 3 provided additional evidence of the time-ask effect, and more importantly, evidence for the mechanism underlying this effect. Specifically, consistent with our theory that measuring time intentions activates an emotional mindset thereby allowing the person to see the relationship between charitable giving and personal happiness, the participant's increased belief in the happiness-volunteering link mediated the effect of the intention question order. Additionally, the data cast doubt on several alternative mechanisms including value anchoring, increased empathy, and ease-of-representation.

GENERAL DISCUSSION

How to get people to give? The current research tackles this question by highlighting an important distinction between two types of “asks”—one that involves asking for donation of time and the other that involves asking for money. In both field and lab experiments, and across different populations (US consumers and college students), we show that first asking people about their intentions to donate time leads to a significant increase in actual amounts of contribution, compared to either not asking for volunteering donations (experiments 1 and 2) or first asking people about their intentions to donate money (experiments 2 and 3). Further, this effect appears to be driven by the differential mindsets activated by the consideration of spending time versus money. Considering time appears to activate goals of emotional well-being and beliefs involving personal happiness. Such a mindset leads to greater willingness to make an actual donation.

By demonstrating the differential effects of measuring time versus money, this research further contributes to the understanding of the effects of asking questions and measuring intentions. In particular, how behavior is affected depends on the specific constructs and processes that are activated during the construction of an answer to a question. The current findings have important implications for research on time, money, and emotional well-being.

Conception of Time

This research adds to the growing body of work on time and temporal perspective which shows that time is not merely an accounting unit but has rich emotional

associations that influence people's behavior in a wide range of domains. For example, thinking of time as expansive versus constrained influences both mindsets (e.g., concrete mental representations; Malkoc and Zauberan 2006) and the type of goals people value (e.g., approach and avoidance goals, Therault, Aaker, and Pennington 2007; short versus long-term goals, Liu and Aaker 2007). To illustrate, when time is expansive, people tend to put greater emphasis on learning goals (Carstensen et al. 1999). However, when time is seen as limited and coming to an end, people tend to pursue outcomes that are emotionally meaningful (Williams and Drolet 2005).

Extending these findings, the current research suggests another way by which perceptions of time may affect behavior—namely, by simply considering how one would spend time. Thoughts of spending time for a charity appear to activate an emotional mindset, thereby making salient the connection between personal happiness and charitable giving—and possibly infecting the desire to achieve meaning and happiness in life. Building on this framework, future research may examine several interesting possibilities. For example, although the current research focuses on the charitable donations context, future work is needed to explore whether a more generic question such as, “How do you plan to spend your weekend?” may be enough to activate a mindset in which people are more focused on emotional goals in a subsequent unrelated task (compared to those who were not asked this question). In addition, people primed with time may process information in a top-down manner such that they become more focused on high- rather than low-level goals due to the inherent association of time intentions and the future (Trope and Liberman 2003). Future research may be conducted to isolate each of these processes involved in thinking about time.

The Psychology of Money and Giving

A growing amount of research has explored the psychological and behavioral consequences of considering money. For example, when primed with the concept of money, participants become less helpful and more distant with others as compared to if they had not been reminded of money (Vohs et al. 2006). Further, participants reminded of money worked 48% longer before asking for help and were three times more likely to choose to work alone (compared to participants not reminded of money). In addition, money leads to greater effort on challenging tasks before asking for help and greater openness to taking on additional work, two signs of self-sufficiency—a state in which people are reticent to rely on others and do not want others to rely on them (Vohs et al. 2006; 2007).

These results suggest that money, as activated through subconscious or conscious means, leads to greater social distance by lessening the need for people to rely on each other. The current results both dovetail with this recent research and depart from it in three ways. First, we explore both the psychology of money *and* time, illustrating that time-asks lead to distinct effects than money-asks. Of interest is whether the increased donations given to charity when time is asked represent more collective motives, opposite of the self-sufficient behaviors shown in the work on money. Second, the behaviors of interest differ; rather than looking at independence—we focus on donation behavior. Third is the mechanism by which these effects occur. Our effects, whereby time questions lead to greater giving than money questions, seem to relate to beliefs in

happiness of donating time. Future research may further explore the source of this happiness. For example, recent work paradoxically finds that people are willing to donate more when the fundraising process is painful and effortful (Olivola and Shafir 2007). Thus the source of happiness may lie in the emotional meaning of the act (Carstensen et al. 1999), rather than hedonic pleasures. And in fact, the opposite appears true—hedonic pain can deepen the emotional meaning. Additionally, people prefer to give time (over money) when a charitable cause has high personal significance, further suggesting the tie between volunteering and one’s self identity and need for emotional meaning (Reed et al. 2007b). More research is needed to unpack the nature of emotional meaning—whether it stems from social meaning or personal relevance—and to disentangle the role of time donated versus effort expended.

Emotional Well-Being

This research also contributes to theories of emotional well-being and happiness, which have been energized by a growing stream of research (Kahneman, Diener, and Schwarz 1999). This work shows that happiness is derived from multiple sources, beyond just hedonic pleasures. Accumulating research shows that social interactions, particularly close friendships and a satisfied love life, are strongly related to subjective happiness (Lybomirsky 2007).

Adding to this literature, our findings highlight an avenue to happiness that is often overlooked: people may in fact feel a rush of happiness when they help others (Gilbert 2006, Williams and Lee 2007). Indeed, recent research relying on fMRIs

demonstrates that reward centers in the brain are activated when people help a charity—even when they do it through paying taxes (Harbaugh et al. 2007). And this rush might be more likely to occur when people think about the time (versus money) they might give due to the social and identity implications of volunteering (Reed et al. 2007b). Giving money, on the other hand, may in fact serve to psychologically separate the donor from the donee—an implication that falls from the work by Vohs and colleagues (2006; 2007), and is also consistent with our findings of the negative effect of a money-ask on donations. More broadly, when does giving money to a charity distance you from that charity, and when does it draw you closer?

Further, this link between helping and happiness also exists in people's everyday intuition about happiness. To illustrate, Oprah Winfrey attested to this lay belief when she declared on her "favorite give-away" show that "every gift I've ever given has brought at least as much happiness to me as it has to the person I've given it to." However, although this lay theory exists, the current research suggests that this belief may not always be salient, resulting in "under-helping" or low response to appeals for help. Yet, under certain circumstances (e.g., when a donation of time is considered), the link between helping and happiness may become activated, leading to greater amounts of donation to help those in need -- and, potentially, increased happiness experienced by the donor.

Finally, future research is needed to explore the nature of the bi-directional relationship between happiness and giving. Extant work shows that, relative to unhappy people, happy people invest more hours in volunteer service (Thoits and Hewitt 2001) and volunteer at higher levels for charity and community service groups, including

religious, political, educational and health-related organizations (Krueger, Hicks and McGue 2001). Thus, those who are happy seem more inclined to help others. Our research complements this stream by demonstrating that those who are asked to give time endorse the belief that happiness is linked to volunteering—suggesting a cyclical effect between happiness and volunteering. In this relationship, which is the stronger driver and starting point of the feedback loop: feeling happy or giving time?

Caveats and Calls for Future Research

This research was inspired in part by calls for more research on charitable giving and insights into consumer welfare and happiness (Kasser and Kanner 2004; Mick 1999). Our findings and methods, however, are not without their limitations. First, whereas the enhanced belief about the happiness associated with giving is posited to underlie the effect, what remains unclear is the nature of the happiness generated. Is the happiness generated by increased self-esteem and the feeling of self-satisfaction? What are the specific emotions accompanying it—pride and elation, or peacefulness and harmony (Williams and Aaker 2002)? How does the happiness associated with donating time differ from the feelings associated with donating money (e.g., Reed et al. 2007a; 2007b)? To address these questions, measures of both pure and mixed emotions are needed, as are measures tapping the degree to which the self is activated when charitable donations are given.

A second area of murkiness is the psychological processes in the money-ask-first condition. We provided evidence that emotional goals and the link between helping and

happiness are not as salient in the money-ask-first condition as in the time-ask-first condition. In fact, emotional goals may be suppressed compared to the control condition (where no intention questions were asked), as suggested by the *reduced* amount of donation in the money-ask-first condition compared to the control condition in experiment 2. However, direct evidence is needed to show (a) that the goal of utility maximization is heightened at the expense of happiness goals in the money-ask-first condition, and (b) whether the utility maximization goal is more unambiguous (Okada and Hoch 2004) in the money-ask rather than time-ask condition.

Third, although this research shows that the beliefs of happiness mediate the effect of the time-ask effect, direct evidence for a shift towards an emotional mindset is lacking—leaving open the possibility that other mechanisms related to positive emotions may be operating. As one example, priming of time may activate specific experiential goals (Van Boven and Gilovich 2003), such as having a good time working with other people, rather than a general emotional mindset. In experiment 3, we found suggestive evidence that a time-ask may increase the ease of imagining oneself contributing. Indeed, even though this imagery of helping did not mediate the effect of time-ask on eventual donation, the role of increased ease of representation of action due to time-ask is an interesting area for future research. As another example of the positive effect of time-ask, the mention of time may also activate one's ideal versus pragmatic self, whereby giving to charity is consistent with the ideal self. Indeed, such an accessible ideal self-view may be part and parcel of the mindset induced by the time-ask.

More generally, boundary conditions to the time-ask effect shown here need empirical illumination. In particular, future research is needed to examine how long the

activation and hence the measurement effect lasts (Dholakia and Morwitz 2002). Second, more work is needed to examine whether the time-ask effect applies to all types of charitable causes. Of note, although the current studies focus on helping lung cancer patients and children with chronic illness, we have replicated the effect for other non-profit charities operating outside the domain of health (e.g., environmental protection, education). Still, future research needs to determine whether the time-ask effect and the same underlying mechanism apply across various pro-social contexts.

Finally, this paper has important practical implications for both profit and non-profit social organizations interested in cultivating ways to more effectively raise funds. For example, Microsoft recently advised its employees to donate to charity through volunteering their expertise rather than money (Yao 2006). Similarly, the non-profit organization MoveOn.org reaches out to potential voters in the Democratic party by asking them to volunteer a few minutes to call their families and friends to get the word out, rather than to donate money to the platforms (e.g., providing a “Make Calls” link, rather than a “Donate Here” link; <http://pol.moveon.org/phone/volunteer/?id=9347-5286855-uid9whrLeZf9Dlh9vJlh6w&t=2>). The current research suggests that such policies may not just impact volunteering behavior; they may have the independent, and perhaps inadvertent, effect of also increasing the levels of monetary donations. From a policy maker’s point of view, this research suggests that volunteering for one’s community should receive more attention due to its potential dual impact on both greater pro-social behavior as well as the ensuing happiness for the donor. Thus, this research provides a practical suggestion for increasing pro-social behavior and happiness: We should think about time, and not money.

APPENDIX

HOPELAB STIMULI FOR EXPERIMENT 2 AND EXPERIMENT 3



Founded in 2001, HopeLab is a non-profit organization that creates innovative solutions to improve the health and quality of life of young people with chronic illness. The HopeLab team works closely with young people with chronic illness to incorporate their critical and ongoing input into product development.



Re-Mission™

HopeLab's first project is Re-Mission™ -- a video game developed for adolescents and young adults with cancer. HopeLab researchers worked with leading video game developers and animators, cancer experts, cell biologists, psychologists, and young people with cancer themselves to create this groundbreaking game. Re-Mission is a challenging, 3D "shooter" with 20 levels that takes the player on a journey through the bodies of young patients with different kinds of cancer. Players control a nanobot named Roxxi who destroys cancer cells, battles bacterial infections, and manages realistic, life-threatening side effects associated with cancer. Results indicate that playing Re-Mission produced increases in quality of life, self-efficacy, cancer-related knowledge for adolescents and greater levels of adherence to treatment in young adults with cancer.

HopeLab is distributing a PC version of the game to young people with cancer, free of charge, through a website and on-line community at re-mission.net. The website also provides an interactive, online community where teens and young adults with cancer can share information and support one another.

How interested are you in volunteering for HopeLab?

Not at all 1 2 3 4 5 6 7 Very much

How interested are you in making a donation to HopeLab?

Not at all 1 2 3 4 5 6 7 Very much

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FIGURE 1
THEORETICAL MODEL

