

Merely Activating the Concept of Money Changes Personal and Interpersonal Behavior

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ABSTRACT—*Money plays a significant role in people's lives, and yet little experimental attention has been given to the psychological underpinnings of money. We systematically varied whether and to what extent the concept of money was activated in participants' minds using methods that minimized participants' conscious awareness of the money cues. On the one hand, participants reminded of money were less helpful than were participants not reminded of money, and they also preferred solitary activities and less physical intimacy. On the other hand, reminders of money prompted participants to work harder on challenging tasks and led to desires to take on more work as compared to participants not reminded of money. In short, even subtle reminders of money elicit big changes in human behavior.*

KEYWORDS—*money; self; competency; performance; helping; interpersonal relationships*

Money changes people. Although this statement seems to be a truism, little work has been done to test the psychological underpinnings of money. We examined the potential cognitive, motivational, emotional, and behavioral changes that result from the activation of the idea of money in people's minds. We found that even subtle reminders of money produce robust changes in behavior. Money-related concepts have been studied in psychology, sociology, marketing, anthropology, and health sciences, and this research hints at money having dual effects. These studies have found that money is bad for the interpersonal self but can be good for the personal self (Vohs, Mead, & Goode, 2006).

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On the former point, research is clear that the love of money is often the start of trouble—relationship trouble, mostly. Americans who highly value money have poorer relationships than do those who take a more moderate approach to money (e.g., Kasser & Ryan, 1993). People's mental health is also harmed when they value both family relationships and the possession of material objects, because these two values conflict and cause mental stress (Burroughs & Rindfleisch, 2002). (Intriguingly, people who value material objects but not family do not have mental health repercussions.) Hence, wanting money or what money can buy impairs relationship-related outcomes.

However, life seems to be better when people have money than when people lack money. Evidence that has been widely discussed and debated (Diener & Seligman, 2004) suggests that having more money is associated with more frequent positive emotions and less frequent negative emotions than having less money is (although methodological factors may contribute to the effect; Kahneman, Krueger, Schkade, Schwarz, & Stone, 2006). Other work shows that having money is good for personal health. Studies of socioeconomic status (of which income is a major determinant) consistently indicate that financial strain has negative effects on mortality (Adler & Snibbe, 2003). Financial strain is accompanied by heightened depression, ill physical health, and lower feelings of control (Price, Choi, & Vinokur, 2002). Recent work revealed that having money protects people from unfortunate and unforeseen perturbations in life, mainly because money allows for control over the outcomes (Johnson & Krueger, 2006). In short, having money confers benefits to people's lives.

We found it somewhat puzzling that wanting money seems to make life worse, but having money makes life better; after all, few (if any) other major wants or needs have this quality. So we developed a pair of hypotheses to reveal more about the psychological effects of money.

PREDICTING THE DUAL EFFECTS OF MONEY

Common uses of money include procurement of goods and being rewarded for successful task completion (Lea & Webley, 2006). In some cases, people exchange resources in a manner that is sensitive to the contribution that each person makes to the exchange (i.e., ratio-based exchange, for which money is the quintessential, but not only, mechanism). That is, person A may have performed a task that yields an output that person B finds exceptionally valuable. In return for being allowed to own or use the output of that task, B may give A some money. When people trade resources on the basis of equity, the more that B values the output, the more money B should give A in a proportional sense. This type of exchange defines what is known as a market-pricing mode, one of the four fundamental ways of relating to others socially (Fiske, 1991). Market pricing underlies cost/benefit analyses, in that a person considers what he or she will receive in return before enacting a given behavior. Because money is the most typical form of market pricing, over time, the mere presence of money should elicit a market-pricing orientation toward the world.

This framework led to two hypotheses. Our first hypothesis was that money is linked to a focus on personal inputs and outputs, which may manifest behaviorally as an emphasis on personal performance. This prediction came from the fact that people use money to procure goods and services to enable them to meet personal needs, which they can do far more efficiently with money than they could without it. A secondary source of support comes from the fact that money rewards successful task completion, which means that money often follows from performance efforts. Hence, we predicted that reminding people of the concept of money would encourage individual performance efforts.

Although promoting personal performance may be beneficial for getting ahead, it may not be the best for getting along with others. If money conjures up a market-pricing mode, in which people think of life in transactional terms with inputs and expected outputs, then one might expect problems when it comes to socially relating to others. Indeed, the mode that underlies the connectedness found in warm and intimate relationships is located at the opposite end of the relational-model spectrum (Fiske, 1991), suggesting that behaviors elicited by one mode may clash with the other mode. Hence, our second hypothesis was that being reminded of money would make people less sensitive to the needs of others than they would be without that reminder.

We used the term *self-sufficiency* to describe the inner state that accompanies a market pricing mode. Self-sufficiency is defined as an emphasis on behaviors of one's own choosing accomplished without active involvement from others. Being in a self-sufficient state would mean being hesitant to allow others to involve the self in their activities (for more information on the term self-sufficiency, see Vohs et al., 2006).

TESTING THE MIXED EFFECT OF MONEY

Research on concepts related to money (e.g., materialism, desire for money, wealth, financial strain) yielded some important ideas about the possible effects of money, but it was unclear whether money was the sole driving force. There are many differences between wealthy and nonwealthy people and between people who value material goods and those who do not, and these differences may have been driving the effects in extant research. Therefore, we took our hypotheses to the laboratory and used experimental manipulations to change how strongly or weakly the concept of money was activated in participants' minds. We randomly assigned participants to the different conditions, thereby eliminating concerns that different types of people could produce the effects. Together, these two features allowed us to make causal claims about whether money per se determines the observed effects. Additionally, we used subtle reminders, or *primes*, to uncover natural mental associations by minimizing the salience of the manipulations, such that participants were likely unaware of the presence of monetary cues.

The methods we used can be categorized into four broad classes. In one manipulation, participants played the board game Monopoly, after which participants moved on to a new task. But before the new task began, we gave participants in the high-money condition \$4,000 of play money and gave participants in the low-money condition \$200, which we simply said was "for later." Participants in the control condition also played the game but afterwards were given no play money. A second manipulation asked participants to think about life with abundant or restricted finances. A third manipulation had participants organize phrases that were or were not related to money ("I cashed a check" versus "I wrote the letter"). A fourth manipulation involved participants sitting near images of cash or neutral images. All of these manipulations yielded similar effects.

We first investigated the effects of money on social relationships by testing helpfulness toward others. We predicted that reminders of money would detract from helpfulness due to its suspected role in straining social relationships. Moreover, helpfulness is a socially valuable motive that we predicted would reflect changes in underlying preferences related to sociality. We measured helpfulness in four experiments that varied whether the helping opportunity involved offering time or offering money. In one experiment, participants were reminded of money via the Monopoly game method mentioned earlier. Later, the experimenter took the participant across the laboratory ostensibly to perform a task in another room, and at a certain moment when the participant walked by, a confederate (a woman who worked for the laboratory, unbeknownst to participants) also walked by and spilled 27 pencils in front of the participant. Participants who had been strongly reminded of money were less helpful than either set of participants who had been weakly reminded of money (i.e., the low-money and control groups) in that they picked up fewer pencils. In another experiment, participants

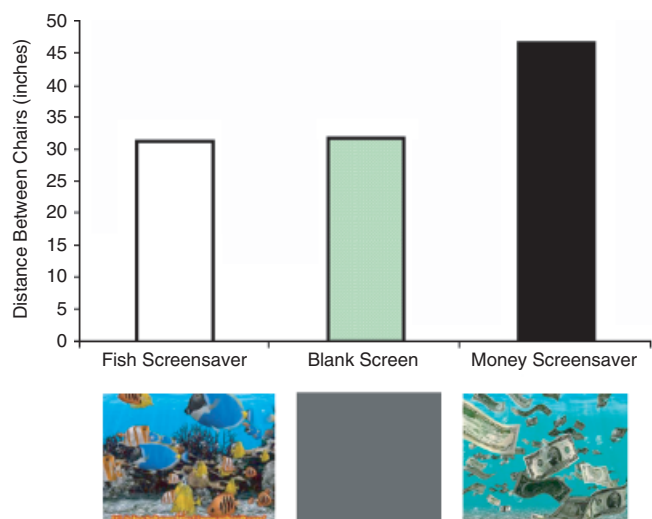


Fig. 1. Distance between chairs (in inches) as a function of prior exposure to a fish screensaver, no screensaver, or a money screensaver. Participants' placement of their chair relative to an unacquainted participant's chair was considered to be an indicator of preferred social distance. Participants sat at a desk to complete a packet of questionnaires, and one of the two screensavers or a blank screen could be seen in their visual periphery. Screenshots of the two screensavers can be seen below each bar graph; both are commercially available at www.geliosoft.com.

first were reminded of money (or not) via a linguistic puzzle and then met a confused peer (actually another confederate working for the lab). The confused peer asked for help in understanding instructions for a task on which she was working. Participants not reminded of money spent 120% more time helping the confused student than did those who had been reminded of money.

Although we had observed multiple instances of reduced helpfulness among participants reminded of money, we wondered whether we had given money-reminded participants a suitable opportunity to help. Perhaps being helpful by giving money is preferred among people who have been reminded of money. Prior to the manipulation, we paid participants for their participation by giving them eight quarters (\$2). Participants were nonconsciously reminded of money or neutral constructs and then given a private opportunity to donate to the University Student Fund. Consistent with our findings on helping in terms of time, we found that participants who had been unobtrusively reminded of money donated less money than did neutral participants. In fact, participants who had been reminded of money donated only 39% of their payment, compared with 67% donated by participants in the control group.

To widen the scope of the findings, three additional experiments tested whether participants who were reminded of money preferred differing amounts of social contact. In one experiment, participants were reminded of money, nature, or no specific content, by being exposed to one of three screensavers (see Fig. 1); participants in the control group were exposed to a blank

screen. The screensavers were displayed on a computer screen on top of the desk at which participants were seated. Afterward, participants were told that the next task involved a getting-acquainted conversation with a participant who was down the hall. As the experimenter left the room, ostensibly to retrieve the would-be conversation partner, she pointed to a chair in the corner of the room and told the participant to pull that chair toward the participant's own chair for the upcoming interaction. Distance between the chairs was taken as a tacit sign of preferred social intimacy. Participants who had been reminded of money put more physical distance between themselves and the unacquainted interaction partner than did participants who were not reminded of money (Fig. 1).

We also considered the idea that money prompts separateness from strangers but not from friends and loved ones. In one experiment, we exposed participants to money reminders by having them complete questionnaires while seated at a desk placed underneath a poster of hard currency or a watercolor print (Fig. 2). Afterwards, participants were given a list of leisure activities and asked to indicate which they would find enjoyable. The list was organized such that participants were forced to choose between activities for one person (e.g., reading a favorite novel) and shared activities (e.g., going to a café with a friend). To test whether being with loved ones would trump the tendency for money to prompt social separateness, the list specifically mentioned activities with friends, family, and loved ones. Nonetheless, participants who had been reminded of money preferred solo leisure activities more than did neutral participants.

Given frequent use of money as an incentive for good performance or dedicated effort, we conducted three experiments related to task performance and persistence. When offered the choice to work on a task alone or with another person, participants who had been reminded of money were three times more likely to choose to work alone than were those not so reminded (84% versus 28%; Fig. 3). To work with someone else presumably meant sharing some of the work (or at the very least doing the task oneself, in which case the workload would be the same as if completed by oneself), so we can safely assume that participants who chose to work alone recognized that they would be taking on more work. Thus, participants who nonetheless opted to work alone must have desired to be alone so much that they were willing to be responsible for the entire job.

In two additional experiments involving performance-related behavior, participants were given difficult or impossible tasks; help was available from either the experimenter or a peer (respectively). Time spent working on the challenging tasks before requesting help was the dependent measure. Consistent with our earlier experiments, we found that participants reminded of money worked 48% longer, averaged across both experiments, before asking for help than did participants who were not reminded of money.

In summary, we found that small reminders of money produced large changes in behavior. Compared to neutral conditions, when



Fig. 2. Posters used to prime money (top) and neutral concepts (bottom). Participants sat at a desk to complete a packet of questionnaires, and one of these posters could be seen out of their visual periphery.

the construct of money was activated, participants behaved in ways that were both more desirable (persistence on challenging tasks; taking on more work for oneself) and more undesirable (reduced helpfulness; placing more distance between the self and others)—in short, a mixed bag that echoes people’s ambivalence toward money and the divergent findings observed in extant research.

KNOWN AND UNKNOWN

The effects of money on behavior are large and consistent, but also diverse. Our most pressing question is: Why does being reminded of money have the effects that it does?

Self-sufficiency may or may not prove to be the best explanation for the data. We have no validated indicator of self-sufficiency, and therefore it is crucial to consider constructs instead of, or in addition to, self-sufficiency. Here, we think it

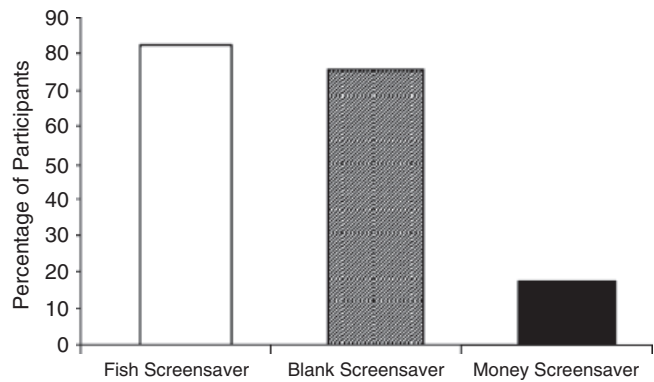


Fig. 3. Percentage of participants who chose to work with another participant (versus alone) on an upcoming task as a function of whether they had been exposed earlier to a fish screensaver, a blank screen, or a money screensaver. (See Fig. 1 for screensaver shots.)

best to describe some of our null findings, which bear on some of the alternate explanations for the observed effects and, given that they occurred in experiments that showed other statistically significant results, may be relevant. One such null finding is that participants reported being in similar emotional states regardless of whether they had been reminded of money. A lack of emotion differences assuages concerns that money renders people distrusting of others, anxious, or prideful, which in turn would account for our findings. Others have interpreted our findings as demonstrating that money makes people selfish. The idea that money leads to greed or selfishness seems to be part of modern Western cultural lore but does not seem to fit our data: A selfish person likely would have immediately asked for help when given a tough assignment (cf. aforementioned findings) and would have rejected the notion of accepting more work than was necessary (cf. Fig. 3).

We are eager to explore the idea that money leads to a perspective on the world that emphasizes inputs and outputs with an expectation of equity (cf. Fiske, 1991)—a perspective that would emphasize performance and, consequently, may harm interpersonal sensitivity. In light of our findings that money enhances performance strivings, the link between money and feelings of personal control, which surface repeatedly from studies on income, should be explored. Unpublished findings from our laboratory suggest that the market-pricing explanation is promising in that, after people are reminded of money, they show improved memory of exchange-related information, prefer exchange-based relationships, and follow equity rules.

CONCLUSION

Money is a constant in modern life, yet there has been a dearth of basic experimental research on money’s psychological underpinnings. We encourage scientists to turn their attention toward the cognitive, motivational, and behavioral consequences of

money, because the centrality of money in people's lives shows no sign of waning.

Recommended Reading

- Diener, E., & Seligman, M.E.P. (2004). (See References). A discussion of the role of money and nonmonetary factors in well-being in the context of public policy.
- Kahneman, D., Krueger, A., Schkade, D., Schwarz, N., & Stone, A. (2006). (See References). An argument that the statistical relationship between income and happiness is due to an attentional bias.
- Lea, S.E.G., & Webley, P. (2006). Money as tool, money as drug: The biological psychology of a strong incentive. *Behavioral and Brain Sciences*, *29*, 161–209. A comprehensive theory of money as a powerful incentive.
- Vohs, K.D., Mead, N.L., & Goode, M.R. (2006). (See References). Discusses the experiments summarized in the current report, along with an expanded self-sufficiency theory of money.
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