

No match for money: Even in intimate relationships and collectivistic cultures, reminders of money weaken sociomoral responses

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ABSTRACT

The present research tested two competing hypotheses: (1) as money cues activate an exchange orientation to social relations, money cues harm prosocial responses in communal and collectivistic settings; (2) as money can be used to help close others, money cues increase helping in communal or collectivistic settings. In a culture, characterized by strong helping norms, money cues reduced the quality of help given (Experiment 1), and lowered perceived moral obligation to help (Experiment 2). In communal relationships, money reminders decreased willingness to help romantic partners (Experiment 3). This effect was attenuated among people high on communal strength, although money cues made them upset with help requests (Experiment 4). Thus, the harmful effects of money on prosocial responses appear robust.

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Money, in addition to being a necessity in modern life, has some rather pernicious consequences for the way that people treat others. Merely being reminded of money reduces people's willingness to spend time with and help others (Vohs, Mead, & Goode, 2006). Money cues reduce compassionate responding (Molinsky, Grant, & Margolis, 2012), and elicit disdain at others' emotional expressions (Jiang, Chen, & Wyer, 2014).

Research on how money cues influence interpersonal behavior has largely focused on interactions among strangers. Such focus makes sense given that money's purpose is to enable people to trade goods and services with strangers (Lea & Webley, 2006). Additionally, the majority of the research on this topic has been conducted in North America and Western Europe. Hence, existing research can be broadly said to show that people living in individualistic societies treat strangers with less care and concern after being reminded of money.

We sought to test two important arenas that have not received much attention, specifically, whether the effects of money cues on social interactions generalize to societies in which communal norms are prevalent, and to close, intimate relationships in which people tend to prioritize others' needs over their own. We focused specifically on prosocial behavior because

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prosociality has been the focus of many money priming studies, and because prosociality is a key component of close relationships and communal ties (Clark & Mills, 1979; Rusbult, 1980).

Competing hypotheses

We entertained two competing hypotheses about how money cues would affect prosociality in close or communal relationships.

Prediction: Money primes reduce prosociality in communal relationships

The leading hypothesis was that people exposed to money cues would be less helpful and prosocial than those not exposed to money. Multiple, independent investigations have shown that reminders of money reduce people's willingness to help and work with others. For example, participants cued with money chose to work alone instead of with a peer (Vohs et al., 2006). After being reminded of money (compared to neutral concepts), people reported being less interested in volunteering their time to an organization (DeVoe & Pfeffer, 2007), and adolescents predicted that they would donate less of their money to charity (Roberts & Roberts, 2012). Polish schoolchildren were less willing to help after being exposed to money (vs. neutral) cues (Gasiorowska, Zaleskiewicz, & Wygrab, 2012). Parents attending a festival with their children reported that the event held less meaning after being reminded of money, as opposed to other ideas (Kushlev, Dunn, & Ashton-James, 2012). Thus, money cues detract from communal, prosocial strivings.

One reason why the idea of money can interfere with prosocial behavior might be money's strong link with exchange. People use money in trading goods and services, and they exchange work and effort for money (Weatherford, 1998). The link between money and an exchange mentality is so strong that it typifies one of the four styles of relating that has been observed all over the world (Fiske, 1992). A person viewing the world through the lens of exchange calculates the ratio between what one gives up and what one is likely to get back, a mentality unlikely to enhance prosocial behavior, for which there often is not a direct, immediate return on investment. Fiske (1992) noted that an exchange mindset is most incongruent with a communal mindset, in which people give and take as needed without regard to reciprocity or calculations. Hence, we predicted that money would trump the norms that govern communal relationships and contexts, resulting in less prosociality.

Prediction: Money primes aid prosociality in communal relationships

It is also possible that money cues would enhance helping and prosociality. People certainly do use money to help ensure the happiness, health, or support of others. Philanthropic individuals donate money to strangers, parents earn money to spend on their families, and potlatches (elaborate ceremonies in which aristocrats gave away their wealth) are used to shore up social support among friends and neighbors (Boas, 1888). Hence, it is plausible that people connect the idea of money and being helpful.

Being in a communal or close relationship often motivates people to be prosocial. Close relationships are marked by care, giving, and helpfulness (Clark & Mills, 1979; Rusbult, 1980). A similar statement can be made about the behavior of people in communal societies. For instance, in India, a country traditionally classified as being collectivistic, people see helping

as a moral responsibility (Miller, Bersoff, & Harwood, 1990). As opposed to people in more individualistic countries like the US, who believe that they need to help only others whom they like or know, Indians feel obligated to help irrespective of relationship status (Miller & Bersoff, 1998). These findings suggest that prosociality is prized among people in close relationships and collectivistic societies.

Money cues can make people more eager to achieve their goals. Putting images of money in front of people's eyes leads them to more doggedly pursue valued ends (Vohs et al., 2006). When people use money to help others, they are far happier than when they use money on themselves (Dunn, Aknin, & Norton, 2008). Hence, the presence of money could promote helping in communal relationships because these are situations in which people highly value prosociality.

The present experiments

Four experiments tested two competing hypotheses about the effect of money cues on prosocial behavior in communal societies and close relationships. Experiment 1 assessed whether exposure to money cues would lead Indians to provide lower quality help to the experimenter. Experiment 2 examined whether money cues would reduce Indians' perceived moral responsibility to help. Experiment 3 investigated whether money cues would reduce people's willingness to help their romantic partner, and assessed feelings of being upset at the request as an additional outcome. Experiment 4 tested whether the effects of money cues on willingness to help and feeling upset are similar across people high or low on communal strength in a romantic relationship.

Experiment 1

Experiment 1 tested whether money primes influence willingness to help in India, a culture in which helping is viewed as a moral obligation, not a personal choice (Miller & Bersoff, 1998; Miller et al., 1990). If money cues activate an exchange orientation to interpersonal relations, money cues might be strong enough to trump the moral norms about helping prevalent in India. Alternatively, if money cues highlight the possibility that people can use money to help others, money cues might increase helping among Indians.

We operationalized helping in terms of whether participants would volunteer to complete additional survey items for the experimenter. Given the strong moral obligation to help in India (Miller et al., 1990), we anticipated that few participants would refuse to help at all. Therefore, the key dependent measure was the amount of time participants spent answering items on the survey.

Method

Participants

Forty undergraduate students (three women) from a university in Bangalore, India, were recruited to participate in the study. This sample has been used in multiple cross-cultural studies comparing people from American and Indian cultural contexts (e.g., Rattan, Savani, Naidu, & Dweck, 2012; Savani, Kumar, Naidu, & Dweck, 2011; Savani, Markus, Naidu, Kumar,

& Berlia, 2010; Savani, Morris, & Naidu, 2012; Savani, Morris, Naidu, Kumar, & Berlia, 2011; Savani, Stephens, & Markus, 2011; Savani, Wadhwa, Uchida, Ding, & Naidu, 2015).

Participants were randomly assigned to the money condition or the neutral condition. The experiment was conducted in English, as English was the language of instruction in the university, and thus all participants could fluently read and write English. Participants were run in individual private cubicles in a lab room. They were recruited for a 20-min study.

Procedure

Participants first completed a filler questionnaire (on paper) in which they listed recent daily activities. The purpose of the questionnaire was to focus participants' eyes on the sheet in front of them while a computer monitor, 18 inches away, displayed one of two screensavers. Participants in the neutral condition saw a screensaver with geometric patterns. In the money condition, the screensaver depicted currency notes (Vohs et al., 2006). This task took about 5 min.

Participants were instructed that once finished with the filler questionnaire, they should click the mouse (which had the effect of canceling the screensaver) in order to receive the next set of instructions:

Your next task is to answer some questions on the computer. We ask that you answer the first question, but after that you are technically free to go. However, the researchers are in need of participants to complete the questionnaires, and if you do have time and don't mind helping, we would greatly appreciate if you can answer more questions. Once you are done, press the Escape key (ESC) on the top-left of the keyboard to end the survey.

The survey contained 100 items from various psychological scales presented one at a time on the computer screen in a fixed order. Participants were not aware of the total number of items included in the survey, and were not provided with any indicator of their progress. The dependent variable was the amount of time participants spent answering each item. Longer time indicated more sincerity in answering the items (i.e., higher quality of help).

Results

Data preparation

We log-transformed participants' individual response times, which reduced skewness from 8.14 to $-.77$ and Kurtosis from 171.83 to 2.99, and therefore brought the distribution of response times closer to normality (Ratcliff, 1993).

Completing the entire survey

Of the 40 total participants, 36 completed all 100 items of the optional survey. Of the four who did not, two were in the neutral condition and two in the money condition. The significance level of all effects remained the same even if the four participants who did not respond to all 100 trials are excluded from the analyses.

Quality of help

We conducted a hierarchical linear model (Raudenbush & Bryk, 2002) treating trials as nested within participants using the *xtreg* procedure in STATA[®]. Log response time was the trial-level dependent measure, and trial order (uncentered), condition (neutral = 0, money = 1), and their interaction were the predictor variables. The simple effect of condition was nonsignificant,

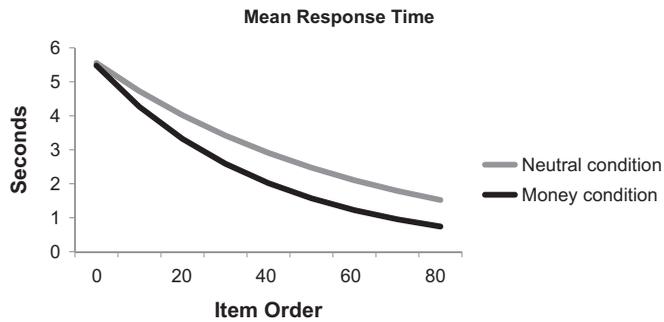


Figure 1. Mean response time as a function of trial order and condition (Experiment 1).

indicating that money and neutral participants responded about equally fast to the questions at the beginning of the task (at trial = 0), $B = -.014$, $SE = .3845$, $z = .04$, $p = .97$, $d = .03$. There was a simple effect of trial order, $B = -.0162$, $SE = .0009$, $z = 18.37$, $p < .0001$, indicating that participants spent less time responding to each successive item.

More important, we observed a significant condition X item-order interaction, $B = -.0088$, $SE = .0012$, $z = 7.06$, $p < .0001$. Relative to neutral participants, money-primed participants responded faster as they progressed through the survey (Figure 1). In other words, as they worked on the questionnaires, money-primed participants began to hurry, more so than neutral-primed participants, such that by the last trial there was a sizable difference between participants' model-predicted response times, $d = .53$.

To further illustrate this interaction effect, we examined the median response time in the first 25 trials and the last 25 trials, separately by each condition. In the first 25 trials, there was a small difference between the two conditions, $Med_{neutral} = 7.16$ s vs. $Med_{money} = 6.70$ s. However, in the last 25 trials, there was a large difference in the median response times across conditions, $Med_{neutral} = 1.50$ s vs. $Med_{money} = .59$ s. The median response time in the money condition in the last quarter of the trials was just a little over half a second, which was in all likelihood insufficient to even read the presented items. Therefore, it appears that toward the end of the experiment, many participants in the money condition were responding without reading the items.

Post-test

To provide support for our interpretation that the speeding up of response times reflected reduced helpfulness, we tested a new group of 40 participants from the same population as the main study. The aim was to check if they had a similar interpretation of response time as we did.

Participants completed the procedures from the main experiment with the exception that there was no prime. Thirty-eight participants responded to all 100 items.

When participants were done answering the additional survey, the experimenter opened their data file and computed the time that the participant spent on the task. The experimenter wrote the duration (in minutes and seconds) on a piece of paper and showed it to the participant before opening a new questionnaire on the computer. This was done to ensure that participants had a sense of how many minutes the task took.

Participants were then given a description of one hypothetical respondent, X, who was described as having completed the same questionnaire as they just completed and who took 6 min and 40 s to do so. We chose this duration because it was the median response time in the neutral condition of the main experiment extrapolated over 100 trials. Participants then considered another hypothetical respondent, Y, who took 5 min and 8 s to complete the survey extrapolated over 100 trials. We chose this duration because it was the median response time in the money condition. These two hypothetical respondents were presented in randomized order.

Participants rated the extent to which each hypothetical respondent (1) helped the experimenter, (2) responded genuinely, (3) responded carefully, and (4) responded thoughtfully (1 = *Not at all* to 6 = *Very much*; $\alpha = .84-.85$).

A paired sample *t*-test revealed that, as predicted, the one with the faster response time was judged as being less helpful than the one with the slower response time, $t(39) = 2.24$, $p = .03$, $M_{\text{money}} = 3.11$, $SD = .19$, $M_{\text{neutral}} = 3.40$, $SD = .17$. Therefore, participants from the same subject population as in the main experiment confirmed our interpretation that faster response times, which occurred more in the money condition than the neutral condition, reflected lower quality help.

Discussion

Experiment 1 found that Indian participants reminded of money were as likely as those not reminded of money to help the experimenter by completing optional questionnaires. Yet, they spent less time responding to each successive question than did participants not reminded of money, indicating lower quality help. Our interpretation of rapid responding as indicating reduced helpfulness was supported by the results of a post-test conducted among participants from the same population as in the main study. The fact that this experiment tested actual behavior in a culture in which there is a strong moral obligation to help offers evidence that money primes do exert deleterious effects on helping even in what can be called a relatively more interdependent or collectivistic culture.

Although Experiment 1 provided initial support for our hypothesis, it is susceptible to a potential alternative argument: Presenting participants with images of Euros in the money condition could have primed Western culture (Hong, Morris, Chiu, & Benet-Martínez, 2000), and thereby reduced helpfulness. We address this issue in the next experiment using a different priming manipulation.

Experiment 2

Experiment 2 attempted to conceptually replicate the findings of Experiment 1 and to identify a potential boundary condition. Instead of measuring helping behavior, we assessed Indians' felt moral responsibility to help. Previous research has shown that Indians perceive helping others as a moral responsibility irrespective of the other person's level of need, whereas Americans view helping as a personal choice except when there is a strong, pressing need such as life-threatening cases (Miller et al., 1990). We predicted that low- and medium-need requests would offer enough moral gray area in which the effects of a money prime could be seen. However, we expected that in high need situations associated with strong social norms about helping, money reminders may have little or no effect on participants' sense

that it is their moral responsibility to help. Thus, the presence of strong prosocial norms was hypothesized to be a boundary condition for the effects of money on prosocial behavior.

Method

Participants

We distributed 100 questionnaires to undergraduate students in a cafeteria at a college in Mumbai, India. Of these, 98 (61 women) were returned and analyzed. Participants were randomly assigned to the money condition or the neutral condition. The experiment was conducted in English, as English was the language of instruction in the university, and thus all participants could fluently read and write English. This sample has been used in multiple cross-cultural studies comparing people from American and Indian cultural contexts (e.g., Savani, Markus, & Conner, 2008; Savani et al., 2010; Savani, Kumar, et al., 2011).

Procedure

The manipulation was a word-descramble task (Vohs et al., 2006), which required participants to compose a grammatically correct phrase using four of five words. In the money condition, 15 of the 30 phrases contained money-related concepts (e.g., raise, check, profits, and revenue). In the neutral condition, no words related to money.

Thereafter, participants completed a measure assessing perceived moral responsibility to help using Miller et al. (1990) scenarios. Three low-need scenarios depicted failures to respond to minor requests (e.g., "Sonia did not give someone a ride to a sightseeing bus stop because she felt that giving the ride might be boring."). Three moderate-need scenarios depicted failures to respond to modest demands (e.g., "Manoj did not give pain-relief medication to someone suffering from a painful migraine headache on a bus ride because he did not want to bother looking for the bottle in his bag"). Three high-need scenarios depicted failures to respond to a life-threatening situation (e.g., "Ashwini not donating blood to someone who required it during emergency surgery because she had plans to go to a movie and did not want to get tired"). Participants rated the extent to which it was the actor's moral responsibility to help on a scale ranging from 1 = *not at all* to 7 = *a lot*.

Results

Participants' ratings within each level of need were averaged to form three indices ($as > .76$). A 2 (condition) X 3 (level of need) mixed-design ANOVA revealed the predicted main effect of condition, $F(1, 96) = 22.68, p < .02, partial r = .062$, indicating that participants in the money condition felt less moral responsibility to help than those in the neutral condition. Representing a manipulation check, we found a main effect of level of need, indicating that participants felt more moral responsibility as the importance of the need increased, $F(2, 192) = 132.87, p < .001, partial r = .58$. Additionally, we found a condition X need interaction, $F(2, 96) = 4.74, p < .04, partial r = .047$. Follow-up analyses revealed that activating the concept of money reduced participants' perceptions that helping is a moral responsibility for the low-need scenarios, $t(96) = 3.31, p = .001, d = .67, 95\% CI [.26, 1.08]$, and moderate-need scenarios, $t(96) = 2.12, p < .04, d = .43, 95\% CI [.02, .83]$, whereas there was no difference in the high-need scenarios, $t(96) = .99, p = .32, d = .20, 95\% CI [-.20, .60]$ (Figure 2).



Figure 2. Mean moral responsibility to help as a function of level of need and condition (Experiment 2). Error bars represent standard error of the mean.

Discussion

Experiment 2 demonstrated that money cues reduced people's moral responsibility to help, particularly in low-need situations for which cultural imperatives about morality are weakest. For high-need situations, which are characterized by strong social norms about helping, the effect of money cues was nonsignificant. The finding that money did weaken sociomoral responses even in a culture like India, in which helping is viewed as a moral obligation, indicates that some of the associations of money are pervasive even in non-Western societies. However, the findings also suggest that the concept of money does not influence people's moral judgments in situations that present pressing human imperatives, such as instances involving life-threatening need, a class of situations in which people perceive a strong moral responsibility to help.

Experiment 3

Whereas, Experiments 1 and 2 demonstrated the negative effects of money cues on prosociality in a collectivistic culture, Experiment 3 tested whether reminders of money change moral responses in romantic relationships, a relationship type guided by communal norms (Clark & Mills, 1979). Participants in committed romantic relationships were exposed to money (vs. neutral cues) and then reported their willingness to help their partner and how upset they were at their partner for making a request. People feel upset when they perceive that their expectations are not being met (Johnson & Leventhal, 1974) and when they desire an exchange relationship, but have a partner who is using communal norms (Clark & Waddell, 1985). If money activates more of an exchange orientation, then it could set the stage for a negative reaction to even the mere request for help.

Method

Participants

A survey seeking 200 participants was posted on Amazon Mechanical Turk as we expected only about 75% of survey takers to qualify (i.e., be in a romantic relationship). Participants were 204 US residents (130 women). At the beginning of the survey, 138 participants (97 women) self-classified as being in a committed monogamous relationship and were

randomly assigned to a neutral or money condition; the remaining were redirected to a different study. Of those who completed this study, 11 were excluded for failing an attention check (Oppenheimer, Meyvis, & Davidenko, 2009).

Procedure

Participants completed the money vs. neutral word-descramble task, a version of which was used in Experiment 2.

Afterward, participants responded to five scenarios that measured willingness to help their romantic partner. The scenarios depicted requests such as completing tasks for a partner when he/she was busy at work, cleaning the house because the partner had other obligations, and cutting short a trip because the partner was sick. Participants indicated their likelihood of complying (0 = *not at all*; 100 = *very much so*), and how upset they would be by each request (0 = *not at all*; 100 = *very much so*).

Results

We averaged participants' likelihood of complying with the help requests and their ratings of how upset they would feel at the help request across all scenarios. As predicted, participants reminded of money reported that they would be less willing to comply with their partner's request for help than those not reminded of money ($M_{\text{money}} = 74.12$, $SD = 17.42$, $M_{\text{neutral}} = 82.22$, $SD = 15.49$), $t(125) = 2.772$, $p = .006$, $d = .49$, 95% CI [.14, .85]. Participants reminded of money also reported that they would be more upset by the requests than those in the neutral condition ($M_{\text{money}} = 35.67$, $SD = 17.66$; $M_{\text{neutral}} = 28.35$, $SD = 20.56$), $t(125) = 2.126$, $p = .036$, $d = .38$, 95% CI [.03, .73].

Discussion

Conceptually replicating the findings of Experiments 1 and 2 in communal relationships rather than in collectivistic cultures, the results provided further support for the hypothesis that reminders of money reduce helpfulness in close relationships. Participants reminded of money (vs. neutral concepts) reported being less willing to help their romantic partner, and that they would more upset by the request.

Experiment 4

Experiment 4 tested potential boundary conditions for the effect of money cues on willingness to help communal relationship partners. Specifically, we examined whether money primes would reduce helpfulness to the same degree among individuals who were high vs. low on communal strength. We hypothesized that money cues might not reduce willingness to help among participants high on communal strength, individuals for whom being responsive to close others is highly important.

We once again measured feelings of being upset, in part to provide a replication of Experiment 3's findings and in part to get a more fine-grained insight into how people with varying levels of communal strength might respond to the idea of a close partner asking for help. As in Experiment 3, we reasoned that if money cues a shift into an exchange mode

centered on what one will get out of an interaction compared to what one puts in, then money cues should make people feel upset despite the motivation to help one's partner.

Method

Participants

Students attending a large undergrad class at a university in the southern USA were requested to complete a survey during class. Of these, 255 students (150 women) involved in a romantic relationship for 3 months or longer were included in the study. Participants were randomly assigned to the money condition or the neutral condition.

Procedure

Participants completed a 10-item communal strength scale that measures people's motivation to respond to a partner's needs (e.g., "How high a priority for you is meeting the needs of your partner?"; Mills, Clark, Ford, & Johnson, 2004). Participants indicated their agreement on 11-point scales (0 = *not at all* to 10 = *very much*; $\alpha = .83$).

Then participants completed the money or neutral word-descramble task used in Experiment 3.

Afterward, participants responded to four scenarios measuring their willingness to help their romantic partner, which were adapted from those used in Experiment 3 for an undergraduate student sample. Participants indicated the likelihood they would comply with each request (1 = *not at all*; 10 = *very much so*) and how upset they would be by each request (1 = *not at all*; 10 = *very much so*).

Results

We averaged participants' likelihood of complying with the help requests and their ratings of how upset they would feel at the help request across all scenarios. Participants reminded of money reported that they would be directionally less willing to comply with their partner's request for help than those not reminded of money ($M_{\text{money}} = 6.77$, $SD = 1.47$, $M_{\text{neutral}} = 6.96$, $SD = 1.55$), although this difference was not statistically significant, $t(253) = 1.00$, $p = .32$, $d = .13$, 95% CI $[-.12, .37]$. Participants reminded of money reported that they would be more upset by the requests than those in the neutral condition ($M_{\text{money}} = 6.19$, $SD = 1.20$; $M_{\text{neutral}} = 5.89$, $SD = 1.26$), $t(253) = 1.94$, $p = .05$, $d = .28$, 95% CI $[.04, .53]$.

To assess whether money primes differentially influenced people high vs. low on communal strength, we regressed participants' average willingness to help across the helping scenarios on their communal strength (centered), condition (dummy coded), and their interaction. This time, there was no main effect of money cues, $B = -.007$, $t(250) = .124$, $p = .901$, partial $r = -.008$, but there was a positive main effect of communal strength, $B = .449$, $t(250) = 7.978$, $p < .0001$, partial $r = .450$, which was moderated by a significant interaction, $B = .117$, $t(250) = 2.101$, $p = .037$, partial $r = .132$. Simple slope tests (Aiken & West, 1991) revealed a trend indicating that money primes increased willingness to help among those relatively high on communal strength (+2SD), $B = .230$, $t(250) = 1.829$, $p = .069$, partial $r = .115$. In contrast, among those relatively low on communal strength (-2SD), the money primes had a marginal negative effect on willingness to help, $B = -.244$, $t(250) = 1.932$, $p = .055$, partial $r = -.121$ (Figure 3).

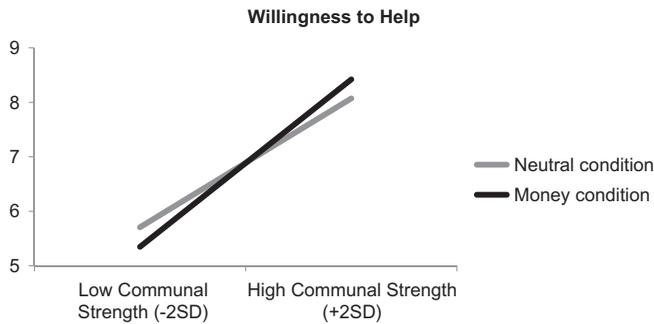


Figure 3. Mean willingness to help as a function of communal strength and condition (Experiment 4).

In contrast, when predicting how upset participants were by the requests for help, we saw two significant main effects, but no interaction. There was a positive main effect of money, indicating that money primes increased the extent to which people reported being upset with requests for help, $B = .130$, $t(250) = 2.082$, $p = .038$, partial $r = .131$. Further, there was a negative main effect of communal strength, indicating that more communal individuals were less upset by the requests, $B = -.135$, $t(250) = 2.160$, $p = .032$, partial $r = -.135$. The interaction was nonsignificant, $B = -.074$, $t(250) = 1.200$, $p = .231$, partial $r = -.076$, indicating that money primes increased negative reactions to the help requests similarly for individuals high or low on communal strength.

Discussion

Experiment 4 replicated one of the key findings of Experiment 3 that money primes make people more upset when close others request help—the effect sizes for this relationship in both experiments fell within each other's 95% confidence interval. However, the main effect of money cues on reduced willingness to help one's romantic partner was not statistically significant in Experiment 4. Although the effect sizes for this relationship in Experiments 3 and 4 do not fall within each other's 95% confidence interval, the 95% confidence intervals do overlap in the range of $d = .14$ – $.37$, indicating that the effect of money primes on willingness to closer others is likely to be small to medium in size. The effect size in Experiment 4 could be smaller if the students sampled in Experiment 4 were overall higher on communal orientation than the adults sampled in Experiment 3, possibly because the students were in one of their first few relationships when completing the study, whereas the older adults might have gone through many relationships.

Nevertheless, the present study identified a boundary condition for the effects of money cues on helping in close relationships: Whereas money cues made participants low on communal strength less willing to help their romantic partners, money cues slightly increased willingness to help among individuals high on communal strength. Therefore, we found support for the leading hypothesis—that money cues reduce prosociality—among individuals low on communal strength. We also observed tentative support for the alternate hypothesis—that money cues increase prosociality—among individuals high on communal strength.

Even participants who were highly motivated to respond to their partners' needs felt more upset with their partners for making the request following money cues, suggesting

that money cues may have caused these individuals to evaluate their partners' requests through an exchange (rather than communal) lens. Thus, individual differences in communal strength moderated the effect of money on willingness to help but not affective reactions to requests for help.

General discussion

Four experiments tested whether subtle reminders of money can influence people's desire to help in cultures characterized by strong moral norms about helping and in close, intimate relationships. Although the power of communal relationships and norms is strong and can overcome selfishness in many cases (e.g., Clark & Boothby, 2013; Clark & Mills, 2012; Finkel & Campbell, 2001; Yoo, Clark, Lemay, Salovey, & Monin, 2011), we hypothesized and largely found that money cues adversely affected people's prosocial responses even in communal relationships and collectivistic cultures.

Experiment 1 found that after being exposed to money cues, Indian participants provided lower quality help to the experimenter—they spent less time responding to successive survey items compared to those exposed to neutral cues. Experiment 2 conceptually replicated this finding and identified a boundary effect, demonstrating that Indians exposed to money cues perceived lower moral responsibility to help others in low- and medium-need scenarios. Yet, in high-need helping scenarios characterized by a strong moral norm to help, money cues did not influence Indians' judgments. The results are particularly striking because helped is viewed as a moral obligation rather than a choice in Indian culture (Miller et al., 1990), providing a conservative test of our hypothesis. Future research can test whether the findings generalize to collectivist cultures other than India.

Experiment 3 shifted to studying communal relationships, showing that people exposed to money cues were less willing to help their romantic partner and more upset at their romantic partner for asking help. Experiment 4 identified another boundary condition, showing that among people high in communal strength, money cues even increase willingness to help one's romantic partner. Yet, speaking to strength of the effects of money on reduced prosociality, although they were more willing to provide help, money cues made individuals high in communal strength more upset at their partner for seeking help. Overall, money strengthened the relationship between people's communal orientation and their affective responses to help requests, indicating that money primes might activate goal-driven responses in general, just like priming power strengthens the relationship between communal orientation and socially responsible behavior (Chen, Lee-Chai, & Bargh, 2001).

Conclusion

Exchange and communal relationships are two of the most basic types of interpersonal interactions. Money is used in exchange relationships in order to enable people to get what they want and need from strangers. Communal relationships, in contrast, do not require a trade in order for a help seeker to get relief. This might be why introducing the concept of money into people's minds led to less generous behaviors and responses. That the very idea of money (rather than its use in trade or as an incentive) shifted people toward being less caring, responsive, and helpful suggests it has the power to crowd out ancient forms of relating that were essential for humanity's success.

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References

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.
- Boas, F. (1888). The Indians of British Columbia. *The Popular Science Monthly*, Vol. 32, p. 636.
- Chen, S., Lee-Chai, A. Y., & Bargh, J. A. (2001). Relationship orientation as a moderator of the effects of social power. *Journal of Personality and Social Psychology*, 80, 173–187.
- Clark, M. S., & Boothby, E. (2013). A strange(r) analysis of morality: A consideration of relational context and the broader literature is needed. *Behavioral and Brain Sciences*, 36, 85–86.
- Clark, M. S., & Mills, J. (1979). Interpersonal attraction in exchange and communal relationships. *Journal of Personality and Social Psychology*, 37, 12–24.
- Clark, M., & Mills, J. (2012). A theory of communal (and exchange) relationships. In P. Van Lange, A. Kruglanski, & E. Higgins (Eds.), *Handbook of theories of social psychology* (pp. 232–250). London: Sage.
- Clark, M. S., & Waddell, B. (1985). Perceptions of exploitation in communal and exchange relationships. *Journal of Social and Personal Relationships*, 2, 403–418.
- DeVoe, S. E., & Pfeffer, J. (2007). Hourly payment and volunteering: The effect of organizational practices on decisions about time use. *Academy of Management Journal*, 50, 783–798.
- Dunn, E. W., Aknin, L. B., & Norton, M. I. (2008). Spending money on others promotes happiness. *Science*, 319, 1687–1688.
- Finkel, E. J., & Campbell, W. K. (2001). Self-control and accommodation in close relationships: An interdependence analysis. *Journal of Personality and Social Psychology*, 81, 263–277.
- Fiske, A. P. (1992). The four elementary forms of sociality: Framework for a unified theory of social relations. *Psychological Review*, 99, 689–723.
- Gasiorowska, A., Zaleskiewicz, T., & Wygrab, S. (2012). Would you do something for me? The effects of money activation on social preferences and social behavior in young children. *Journal of Economic Psychology*, 33, 603–608.
- Hong, Y. Y., Morris, M. W., Chiu, C. Y., & Benet-Martínez, V. (2000). Multicultural minds: A dynamic constructivist approach to culture and cognition. *American Psychologist*, 55, 709–720.
- Jiang, Y., Chen, Z., & Wyer, R. S. (2014). Impact of money on emotional expression. *Journal of Experimental Social Psychology*, 55, 228–233.
- Johnson, J. E., & Leventhal, H. (1974). Effects of accurate expectations and behavioral instructions on reactions during a noxious medical examination. *Journal of Personality and Social Psychology*, 29, 710–718.
- Kushlev, K., Dunn, E. W., & Ashton-James, C. E. (2012). Does affluence impoverish the experience of parenting? *Journal of Experimental Social Psychology*, 48, 1381–1384.
- Lea, S. E., & Webley, P. (2006). Money as tool, money as drug: The biological psychology of a strong incentive. *Behavioral and Brain Sciences*, 29, 161–175.
- Miller, J. G., & Bersoff, D. M. (1998). The role of liking in perceptions of the moral responsibility to help: A cultural perspective. *Journal of Experimental Social Psychology*, 34, 443–469.

- Miller, J. G., Bersoff, D. M., & Harwood, R. L. (1990). Perceptions of social responsibilities in India and in the United States: Moral imperatives or personal decisions? *Journal of Personality and Social Psychology*, 58, 33–47.
- Mills, J., Clark, M. S., Ford, T. E., & Johnson, M. (2004). Measurement of communal strength. *Personal Relationships*, 11, 213–230.
- Molinsky, A. L., Grant, A. M., & Margolis, J. D. (2012). The bedside manner of homo economicus: How and why priming an economic schema reduces compassion. *Organizational Behavior and Human Decision Processes*, 119, 27–37.
- Oppenheimer, D. M., Meyvis, T., & Davidenko, N. (2009). Instructional manipulation checks: Detecting satisficing to increase statistical power. *Journal of Experimental Social Psychology*, 45, 867–872.
- Ratcliff, R. (1993). Methods for dealing with reaction time outliers. *Psychological Bulletin*, 114, 510–532.
- Rattan, A., Savani, K., Naidu, N. V. R., & Dweck, C. S. (2012). Can everyone become highly intelligent? Cultural differences in and societal consequences of beliefs about the universal potential for intelligence. *Journal of Personality and Social Psychology*, 103, 787–803.
- Raudenbush, S., & Bryk, A. (2002). *Hierarchical linear models* (2nd ed.). Newbury Park, CA: Sage.
- Roberts, J. A., & Roberts, C. R. (2012). Money matters: Does the symbolic presence of money affect charitable giving and attitudes among adolescents? *Young Consumers*, 13, 329–336.
- Rusbult, C. E. (1980). Commitment and satisfaction in romantic associations: A test of the investment model. *Journal of Experimental Social Psychology*, 16, 172–186.
- Savani, K., Kumar, S., Naidu, N. V. R., & Dweck, C. S. (2011). Beliefs about emotional residue: The idea that emotions leave a trace in the physical environment. *Journal of Personality and Social Psychology*, 101, 684–701.
- Savani, K., Markus, H. R., & Conner, A. L. (2008). Let your preference be your guide? Preferences and choices are more tightly linked for North Americans than for Indians. *Journal of Personality and Social Psychology*, 95, 861–876.
- Savani, K., Markus, H. R., Naidu, N. V. R., Kumar, S., & Berlia, N. (2010). What counts as a choice? U.S. Americans are more likely than Indians to construe actions as choices. *Psychological Science*, 21, 391–398.
- Savani, K., Morris, M. W., & Naidu, N. V. R. (2012). Deference in Indians' decision making: Introjected goals or injunctive norms? *Journal of Personality and Social Psychology*, 102, 685–699.
- Savani, K., Morris, M. W., Naidu, N. V. R., Kumar, S., & Berlia, N. (2011). Cultural conditioning: Understanding interpersonal accommodation in India and the United States in terms of the modal characteristics of interpersonal influence situations. *Journal of Personality and Social Psychology*, 100, 84–102.
- Savani, K., Stephens, N. M., & Markus, H. R. (2011). The unanticipated interpersonal and societal consequences of choice: Victim blaming and reduced support for the public good. *Psychological Science*, 22, 795–802.
- Savani, K., Wadhwa, M., Uchida, Y., Ding, Y., & Naidu, N. V. R. (2015). When norms loom larger than the self: Susceptibility of preference-choice consistency to normative influence across cultures. *Organizational Behavior and Human Decision Processes*, 129, 70–79.
- Vohs, K. D., Mead, N. L., & Goode, M. R. (2006). The psychological consequences of money. *Science*, 314, 1154–1156.
- Weatherford, J. (1998). *The history of money*. New York, NY: Crown.
- Yoo, S. H., Clark, M. S., Lemay, E. P., Salovey, P., & Monin, J. K. (2011). Responding to partners' expression of anger: The role of communal motivation. *Personality and Social Psychology Bulletin*, 37, 229–241.